```
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                                                     2 ***********************************************************************
                                                     3 *
                                                     4 *        Zvector E6 instruction tests for VRR-g encoded:
                                                     5 *
                                                     6 *        E65F VTP     - VECTOR TEST DECIMAL
                                                     7 *
                                                     8 *        James Wekel June 2024
                                                     9 ***********************************************************************
                                                    10
                                                    11 ***********************************************************************
                                                    12 *
                                                    13 *        basic instruction tests
                                                    14 *
                                                    15 ***********************************************************************
                                                    16 *  This program tests proper functioning of the z/arch E6 VRR-g vector
                                                    17 *  test decimal. Exceptions are not tested.
                                                    18 *
                                                    19 *  PLEASE NOTE that the tests are very SIMPLE TESTS designed to catch
                                                    20 *  obvious coding errors.  None of the tests are thorough.  They are
                                                    21 *  NOT designed to test all aspects of any of the instructions.
                                                    22 *
                                                    23 ***********************************************************************
                                                    24 *
                                                    25 *    *Testcase zvector-e6-14-testdecimal: VECTOR E6 VRR-g instruction
                                                    26 *    *
                                                    27 *    *   Zvector E6 tests for VRR-g encoded instruction:
                                                    28 *    *
                                                    29 *    *   E65F VTP     - VECTOR TEST DECIMAL
                                                    30 *    *
                                                    31 *    *   # -------------------------------------------------------
                                                    32 *    *   #  This tests only the basic function of the instruction.
                                                    33 *    *   #  Exceptions are NOT tested.
                                                    34 *    *   # -------------------------------------------------------
                                                    35 *    *
                                                    36 *    mainsize    2
                                                    37 *    numcpu      1
                                                    38 *    sysclear
                                                    39 *    archlvl     z/Arch
                                                    40 *
                                                    41 *    diag8cmd    enable    # (needed for messages to Hercules console)
                                                    42 *    loadcore    "$(testpath)/zvector-e6-14-testdecimal.core" 0x0
                                                    43 *    diag8cmd    disable   # (reset back to default)
                                                    44 *
                                                    45 *    *Done
                                                    46
                                                    47 ***********************************************************************
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                                                    49 ***********************************************************************
                                                    50 *        FCHECK Macro - Is a Facility Bit set?
                                                    51 *
                                                    52 *        If the facility bit is NOT set, an message is issued and
                                                    53 *        the test is skipped.
                                                    54 *
                                                    55 *        Fcheck uses R0, R1 and R2
                                                    56 *
                                                    57 * eg.    FCHECK 134,'vector-packed-decimal'
                                                    58 ***********************************************************************
                                                    59          MACRO
                                                    60          FCHECK &BITNO,&NOTSETMSG
                                                    61 .*                        &BITNO : facility bit number to check
                                                    62 .*                        &NOTSETMSG : 'facility name'
                                                    63          LCLA  &FBBYTE           Facility bit in Byte
                                                    64          LCLA  &FBBIT            Facility bit within Byte
                                                    65
                                                    66          LCLA  &L(8)
                                                    67 &L(1)    SetA  128,64,32,16,8,4,2,1  bit positions within byte
                                                    68
                                                    69 &FBBYTE  SETA  &BITNO/8
                                                    70 &FBBIT   SETA  &L((&BITNO-(&FBBYTE*8))+1)
                                                    71 .*       MNOTE 0,'checking Bit=&BITNO: FBBYTE=&FBBYTE, FBBIT=&FBBIT'
                                                    72
                                                    73          B     X&SYSNDX
                                                    74 *                                      Fcheck data area
                                                    75 *                                      skip messgae
                                                    76 SKT&SYSNDX DC  C'          Skipping tests: '
                                                    77          DC    C&NOTSETMSG
                                                    78          DC    C' facility (bit &BITNO) is not installed.'
                                                    79 SKL&SYSNDX EQU *-SKT&SYSNDX
                                                    80 *                                      facility bits
                                                    81          DS    FD                      gap
                                                    82 FB&SYSNDX DS   4FD
                                                    83          DS    FD                      gap
                                                    84 *
                                                    85 X&SYSNDX EQU *
                                                    86          LA    R0,((X&SYSNDX-FB&SYSNDX)/8)-1
                                                    87          STFLE FB&SYSNDX               get facility bits
                                                    88
                                                    89          XGR   R0,R0
                                                    90          IC    R0,FB&SYSNDX+&FBBYTE    get fbit byte
                                                    91          N     R0,=F'&FBBIT'           is bit set?
                                                    92          BNZ   XC&SYSNDX
                                                    93 *
                                                    94 * facility bit not set, issue message and exit
                                                    95 *
                                                    96          LA    R0,SKL&SYSNDX           message length
                                                    97          LA    R1,SKT&SYSNDX           message address
                                                    98          BAL   R2,MSG
                                                    99
                                                   100          B     EOJ
                                                   101 XC&SYSNDX EQU *
                                                   102          MEND
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                                                   104 ***********************************************************************
                                                   105 *        Low core PSWs
                                                   106 ***********************************************************************

                              00000000  000013BB   108 ZVE6TST  START 0
00000000                      00000000             109          USING ZVE6TST,R0            Low core addressability
                                                   110
                              00000140  00000000   111 SVOLDPSW EQU   ZVE6TST+X'140'        z/Arch Supervisor call old PSW

00000000                      00000000  000001A0   113          ORG   ZVE6TST+X'1A0'        z/Architecure RESTART PSW
000001A0  00000001 80000000                        114          DC    X'0000000180000000'
000001A8  00000000 00000200                        115          DC    AD(BEGIN)

000001B0                      000001B0  000001D0   117          ORG   ZVE6TST+X'1D0'        z/Architecure PROGRAM CHECK PSW
000001D0  00020001 80000000                        118          DC    X'0002000180000000'
000001D8  00000000 0000DEAD                        119          DC    AD(X'DEAD')

000001E0                      000001E0  00000200   121          ORG   ZVE6TST+X'200'        Start of actual test program...
                                                   122
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                                                   124 ***********************************************************************
                                                   125 *               The actual "ZVE6TST" program itself...
                                                   126 ***********************************************************************
                                                   127 *
                                                   128 *  Architecture Mode: z/Arch
                                                   129 *  Register Usage:
                                                   130 *
                                                   131 *   R0       (work)
                                                   132 *   R1-4     (work)
                                                   133 *   R5       Testing control table - current test base
                                                   134 *   R6-R7    (work)
                                                   135 *   R8       First base register
                                                   136 *   R9       Second base register
                                                   137 *   R10      Third base register
                                                   138 *   R11      E6TEST call return
                                                   139 *   R12      E6TESTS register
                                                   140 *   R13      (work)
                                                   141 *   R14      Subroutine call
                                                   142 *   R15      Secondary Subroutine call or work
                                                   143 *
                                                   144 ***********************************************************************

00000200                      00000200             146          USING  BEGIN,R8         FIRST Base Register
00000200                      00001200             147          USING  BEGIN+4096,R9    SECOND Base Register
00000200                      00002200             148          USING  BEGIN+8192,R10   THIRD Base Register
                                                   149
00000200  0580                                     150 BEGIN    BALR  R8,0             Initalize FIRST base register
00000202  0680                                     151          BCTR  R8,0             Initalize FIRST base register
00000204  0680                                     152          BCTR  R8,0             Initalize FIRST base register
                                                   153
00000206  4190 8800                     00000800   154          LA    R9,2048(,R8)     Initalize SECOND base register
0000020A  4190 9800                     00000800   155          LA    R9,2048(,R9)     Initalize SECOND base register
                                                   156
0000020E  41A0 9800                     00000800   157          LA    R10,2048(,R9)    Initalize THIRD base register
00000212  41A0 A800                     00000800   158          LA    R10,2048(,R10)   Initalize THIRD base register
                                                   159
00000216  B600 82C4                     000004C4   160          STCTL R0,R0,CTLR0      Store CR0 to enable AFP
0000021A  9604 82C5                     000004C5   161          OI    CTLR0+1,X'04'    Turn on AFP bit
0000021E  9602 82C5                     000004C5   162          OI    CTLR0+1,X'02'    Turn on Vector bit
00000222  B700 82C4                     000004C4   163          LCTL  R0,R0,CTLR0      Reload updated CR0
                                                   164
                                                   165 ***********************************************************************
                                                   166 * Is Vector packed-decimal facility installed  (bit 134)
                                                   167 ***********************************************************************
                                                   168
                                                   169          FCHECK 134,'vector-packed-decimal'
00000226  47F0 80B0                     000002B0   170+         B     X0001
                                                   171+*                                      Fcheck data area
                                                   172+*                                      skip messgae
0000022A  40404040 40404040                        173+SKT0001  DC    C'          Skipping tests: '
00000244  A58583A3 96996097                        174+         DC    C'vector-packed-decimal'
00000259  40868183 899389A3                        175+         DC    C' facility (bit 134) is not installed.'
                              00000054  00000001   176+SKL0001  EQU   *-SKT0001
                                                   177+*                                      facility bits
00000280  00000000 00000000                        178+         DS    FD                      gap
00000288  00000000 00000000                        179+FB0001   DS    4FD
```

```
  LOC          OBJECT CODE       ADDR1     ADDR2    STMT

000002A8  00000000 00000000                          180+         DS    FD                      gap
                                                   181+*
                              000002B0  00000001   182+X0001    EQU   *
000002B0  4100 0004                     00000004   183+         LA    R0,((X0001-FB0001)/8)-1
000002B4  B2B0 8088                     00000288   184+         STFLE FB0001                  get facility bits
000002B8  B982 0000                                185+         XGR   R0,R0
000002BC  4300 8098                     00000298   186+         IC    R0,FB0001+16            get fbit byte
000002C0  5400 82CC                     000004CC   187+         N     R0,=F'2'                is bit set?
000002C4  4770 80D8                     000002D8   188+         BNZ   XC0001
                                                   189+*
                                                   190+* facility bit not set, issue message and exit
                                                   191+*
000002C8  4100 0054                     00000054   192+         LA    R0,SKL0001              message length
000002CC  4110 802A                     0000022A   193+         LA    R1,SKT0001              message address
000002D0  4520 81E0                     000003E0   194+         BAL   R2,MSG
000002D4  47F0 82A8                     000004A8   195+         B     EOJ
                              000002D8  00000001   196+XC0001   EQU   *
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                                                   198 ***********************************************************************
                                                   199 *              Do tests in the E6TESTS table
                                                   200 ***********************************************************************
                                                   201
000002D8  58C0 82D0                     000004D0   202          L     R12,=A(E6TESTS)       get table of test addresses
                                                   203
                              000002DC  00000001   204 NEXTE6   EQU   *
000002DC  5850 C000                     00000000   205          L     R5,0(0,R12)       get test address
000002E0  1255                                     206          LTR   R5,R5                have a test?
000002E2  4780 8196                     00000396   207          BZ    ENDTEST                 done?
                                                   208
000002E6  B982 0000                                209          XGR   R0,R0             no cc error
                                                   210
000002EA                      00000000             211          USING E6TEST,R5
                                                   212
000002EA  58B0 5000                     00000000   213          L     R11,TSUB          get address of test routine
000002EE  05BB                                     214          BALR  R11,R11           do test
                                                   215
000002F0  E310 5008 0076                00000008   216          LB    R1,CCMASK         (failure CC mask)
000002F6  8910 0004                     00000004   217          SLL   R1,4              (shift to BC instr CC position)
000002FA  4410 8106                     00000306   218          EX    R1,TESTCC            fail if...
                                                   219
000002FE  41C0 C004                     00000004   220          LA    R12,4(0,R12)      next test address
00000302  47F0 80DC                     000002DC   221          B     NEXTE6
                                                   222
00000306  4700 810A                     0000030A   223 TESTCC   BC    0,CCMSG          (fail if unexpected condition code)
                                                   224
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                                                   226 ***********************************************************************
                                                   227 * cc was not as expected
                                                   228 ***********************************************************************
                              0000030A  00000001   229 CCMSG    EQU   *
                                                   230 *
                                                   231 * extract CC extracted PSW
                                                   232 *
0000030A  5810 8E9C                     0000109C   233          L     R1,CCPSW
0000030E  8810 000C                     0000000C   234          SRL   R1,12
00000312  5410 82D4                     000004D4   235          N     R1,=XL4'3'
00000316  4210 8EA4                     000010A4   236          STC   R1,CCFOUND     save cc
                                                   237 *
                                                   238 * FILL IN MESSAGE
                                                   239 *
0000031A  4820 5004                     00000004   240          LH    R2,TNUM                 get test number and convert
0000031E  4E20 8E89                     00001089   241          CVD   R2,DECNUM
00000322  D211 8E73 8E5D      00001073  0000105D   242          MVC   PRT3,EDIT
00000328  DE11 8E73 8E89      00001073  00001089   243          ED    PRT3,DECNUM
0000032E  D202 8E18 8E80      00001018  00001080   244          MVC   CCPRTNUM(3),PRT3+13     fill in message with test #
                                                   245
00000334  D207 8E35 5009      00001035  00000009   246          MVC   CCPRTNAME,OPNAME        fill in message with instruction
                                                   247
0000033A  B982 0022                                248          XGR   R2,R2                   get CC as U8
0000033E  4320 5007                     00000007   249          IC    R2,CC
00000342  4E20 8E89                     00001089   250          CVD   R2,DECNUM               and convert
00000346  D211 8E73 8E5D      00001073  0000105D   251          MVC   PRT3,EDIT
0000034C  DE11 8E73 8E89      00001073  00001089   252          ED    PRT3,DECNUM
00000352  D200 8E4B 8E82      0000104B  00001082   253          MVC   CCPRTEXP(1),PRT3+15     fill in message with CC field
                                                   254
00000358  B982 0022                                255          XGR   R2,R2                   get CCFOUND as U8
0000035C  4320 8EA4                     000010A4   256          IC    R2,CCFOUND
00000360  4E20 8E89                     00001089   257          CVD   R2,DECNUM               and convert
00000364  D211 8E73 8E5D      00001073  0000105D   258          MVC   PRT3,EDIT
0000036A  DE11 8E73 8E89      00001073  00001089   259          ED    PRT3,DECNUM
00000370  D200 8E5B 8E82      0000105B  00001082   260          MVC   CCPRTGOT(1),PRT3+15    fill in message with ccfound
                                                   261
00000376  4100 0055                     00000055   262          LA    R0,CCPRTLNG            message length
0000037A  4110 8E08                     00001008   263          LA    R1,CCPRTLINE           messagfe address
0000037E  45F0 81A4                     000003A4   264          BAL   R15,RPTERROR
                                                   265
00000382  47F0 8186                     00000386   266          B     FAILCONT
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                                                   268 ***********************************************************************
                                                   269 * continue after a failed test
                                                   270 ***********************************************************************
                              00000386  00000001   271 FAILCONT EQU   *
00000386  5800 82D8                     000004D8   272          L     R0,=F'1'          set GLOBAL failed test indicator
0000038A  5000 8E00                     00001000   273          ST    R0,FAILED
                                                   274
0000038E  41C0 C004                     00000004   275          LA    R12,4(0,R12)      next test address
00000392  47F0 80DC                     000002DC   276          B     NEXTE6

                                                   278 ***********************************************************************
                                                   279 * end of testing; set ending psw
                                                   280 ***********************************************************************
                              00000396  00000001   281 ENDTEST  EQU   *
00000396  5810 8E00                     00001000   282          L     R1,FAILED         did a test fail?
0000039A  1211                                     283          LTR   R1,R1
0000039C  4780 82A8                     000004A8   284          BZ    EOJ                  No, exit
000003A0  47F0 82C0                     000004C0   285          B     FAILTEST             Yes, exit with BAD PSW
                                                   286
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                                                   288 ***********************************************************************
                                                   289 *        RPTERROR          Report instruction test in error
                                                   290 *                             R0 = MESSGAE LENGTH
                                                   291 *                             R1 = ADDRESS OF MESSAGE
                                                   292 ***********************************************************************

000003A4  50F0 81C4                    000003C4    294 RPTERROR ST    R15,RPTSAVE          Save return address
000003A8  5050 81C8                    000003C8    295          ST    R5,RPTSVR5           Save R5
                                                   296 *
                                                   297 *        Use Hercules Diagnose for Message to console
                                                   298 *
000003AC  9002 81D0                    000003D0    299          STM   R0,R2,RPTDWSAV       save regs used by MSG
000003B0  4520 81E0                    000003E0    300          BAL   R2,MSG               call Hercules console MSG display
000003B4  9802 81D0                    000003D0    301          LM    R0,R2,RPTDWSAV       restore regs


000003B8  5850 81C8                    000003C8    303          L     R5,RPTSVR5           Restore R5
000003BC  58F0 81C4                    000003C4    304          L     R15,RPTSAVE          Restore return address
000003C0  07FF                                     305          BR    R15                  Return to caller

000003C4  00000000                                 307 RPTSAVE  DC    F'0'                 R15 save area
000003C8  00000000                                 308 RPTSVR5  DC    F'0'                 R5 save area

000003D0  00000000 00000000                        310 RPTDWSAV DC    2D'0'                R0-R2 save area for MSG call
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                                                   312 ***********************************************************************
                                                   313 *        Issue HERCULES MESSAGE pointed to by R1, length in R0
                                                   314 *              R2 = return address
                                                   315 ***********************************************************************
                                                   316
000003E0  4900 82DC                     000004DC   317 MSG      CH    R0,=H'0'               Do we even HAVE a message?
000003E4  07D2                                     318          BNHR  R2                     No, ignore
                                                   319
000003E6  9002 821C                     0000041C   320          STM   R0,R2,MSGSAVE          Save registers
                                                   321
000003EA  4900 82DE                     000004DE   322          CH    R0,=AL2(L'MSGMSG)      Message length within limits?
000003EE  47D0 81F6                     000003F6   323          BNH   MSGOK                  Yes, continue
000003F2  4100 005F                     0000005F   324          LA    R0,L'MSGMSG            No, set to maximum
                                                   325
000003F6  1820                                     326 MSGOK    LR    R2,R0                  Copy length to work register
000003F8  0620                                     327          BCTR  R2,0                   Minus-1 for execute
000003FA  4420 8228                     00000428   328          EX    R2,MSGMVC              Copy message to O/P buffer
                                                   329
000003FE  4120 200A                     0000000A   330          LA    R2,1+L'MSGCMD(,R2)     Calculate true command length
00000402  4110 822E                     0000042E   331          LA    R1,MSGCMD              Point to true command
                                                   332
00000406  83120008                                 333          DC    X'83',X'12',X'0008'    Issue Hercules Diagnose X'008'
0000040A  4780 8216                     00000416   334          BZ    MSGRET                 Return if successful
                                                   335
0000040E  1222                                     336          LTR   R2,R2                  Is Diag8 Ry (R2) 0?
00000410  4780 8216                     00000416   337          BZ    MSGRET                   an error occurred but coninue
                                                   338
00000414  0000                                     339          DC    H'0'                   CRASH for debugging purposes
                                                   340
00000416  9802 821C                     0000041C   341 MSGRET   LM    R0,R2,MSGSAVE          Restore registers
0000041A  07F2                                     342          BR    R2                     Return to caller



0000041C  00000000 00000000                        344 MSGSAVE  DC    3F'0'                  Registers save area
00000428  D200 8237 1000      00000437  00000000   345 MSGMVC   MVC   MSGMSG(0),0(R1)        Executed instruction


0000042E  D4E2C7D5 D6C8405C                        347 MSGCMD   DC    C'MSGNOH * '           *** HERCULES MESSAGE COMMAND ***
00000437  40404040 40404040                        348 MSGMSG   DC    CL95' '                The message text to be displayed
                                                   349
  LOC       OBJECT CODE      ADDR1     ADDR2    STMT

                                                   351 ***********************************************************************
                                                   352 *        Normal completion or Abnormal termination PSWs
                                                   353 ***********************************************************************



00000498  00020001 80000000                        355 EOJPSW   DC    0D'0',X'0002000180000000',AD(0)

000004A8  B2B2 8298                     00000498   357 EOJ      LPSWE EOJPSW               Normal completion



000004B0  00020001 80000000                        359 FAILPSW  DC    0D'0',X'0002000180000000',AD(X'BAD')

000004C0  B2B2 82B0                     000004B0   361 FAILTEST LPSWE FAILPSW              Abnormal termination



                                                   363 ***********************************************************************
                                                   364 *        Working Storage
                                                   365 ***********************************************************************

000004C4  00000000                                 367 CTLR0    DS    F                CR0
000004C8  00000000                                 368          DS    F

000004CC                                           370          LTORG ,                Literals pool
000004CC  00000002                                 371                =F'2'
000004D0  0000138C                                 372                =A(E6TESTS)
000004D4  00000003                                 373                =XL4'3'
000004D8  00000001                                 374                =F'1'
000004DC  0000                                     375                =H'0'
000004DE  005F                                     376                =AL2(L'MSGMSG)
                                                   377
                                                   378 *        some constants
                                                   379
                              00000400  00000001   380 K        EQU   1024             One KB
                              00001000  00000001   381 PAGE     EQU   (4*K)            Size of one page
                              00010000  00000001   382 K64      EQU   (64*K)           64 KB
                              00100000  00000001   383 MB       EQU   (K*K)             1 MB
                                                   384
                                                   385
                              AABBCCDD  00000001   386 REG2PATT EQU   X'AABBCCDD'    Polluted Register pattern
                              000000DD  00000001   387 REG2LOW  EQU         X'DD'    (last byte above)
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                                                   389 *======================================================================
                                                   390 *
                                                   391 *  NOTE: start data on an address that is easy to display
                                                   392 *        within Hercules
                                                   393 *
                                                   394 *======================================================================
                                                   395
000004E0                      000004E0  00001000   396          ORG   ZVE6TST+X'1000'
00001000  00000000                                 397 FAILED   DC    F'0'                     some test failed?
00001004  00000000                                 398 TESTING  DC    F'0'                     current test number

                                                   400 ***********************************************************************
                                                   401 *        TEST failed : CC message
                                                   402 ***********************************************************************
                                                   403 *
                                                   404 *        failed message and associated editting
                                                   405 *
00001008  40404040 40404040                        406 CCPRTLINE DC   C'         Test # '
00001018  A7A7A7                                   407 CCPRTNUM DC    C'xxx'
0000101B  40A69996 95874083                        408          DC    c' wrong cc for instruction '
00001035  A7A7A7A7 A7A7A7A7                        409 CCPRTNAME DC    CL8'xxxxxxxx'
0000103D  4085A797 8583A385                        410          DC    C' expected: cc='
0000104B  A7                                       411 CCPRTEXP DC    C'x'
0000104C  6B                                       412          DC    C','
0000104D  40998583 8589A585                        413          DC    C' received: cc='
0000105B  A7                                       414 CCPRTGOT DC    C'x'
0000105C  4B                                       415          DC    C'.'
                              00000055  00000001   416 CCPRTLNG   EQU   *-CCPRTLINE
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                                                   418 ***********************************************************************
                                                   419 *        TEST failed : message working storge
                                                   420 ***********************************************************************
0000105D  40212020 20202020                        421 EDIT     DC    XL18'402120202020202020202020202020202020'
                                                   422
0000106F  7E7E7E6E                                 423          DC    C'===>'
00001073  40404040 40404040                        424 PRT3     DC    CL18' '
00001085  4C7E7E7E                                 425          DC    C'<==='
00001089  00000000 00000000                        426 DECNUM   DS    CL16
                                                   427 *
                                                   428 *        CC extrtaction
                                                   429 *
0000109C  00000000 00000000                        430 CCPSW    DS    2F          extract PSW after test (has CC)
000010A4  00                                       431 CCFOUND  DS    X           extracted cc


                                                   433 ***********************************************************************
                                                   434 *        Vector instruction results, pollution and input
                                                   435 ***********************************************************************
000010A8                                           436          DS    0FD
000010A8  AABBCCDD EEFFAABB                        437 R1FUDGE  DC    XL8'AABBCCDDEEFFAABB'                     R1 FUDGE
000010B0  00000000 00000000                        438          DS    XL16                                          gap
000010C0  00000000 00000000                        439 V1OUTPUT DS    XL16                                      V1 OUTPUT
000010D0  00000000 00000000                        440          DS    XL16                                          gap
000010E0  00000000 00000000                        441 R1OUTPUT DS    FD                                        R1 OUTPUT
000010E8  00000000 00000000                        442          DS    XL16                                          gap
000010F8  FFFFFFFF FFFFFFFF                        443 V1FUDGE  DC    XL16'FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF'    V1 FUDGE
00001108  BBBBBBBB BBBBBBBB                        444 V1FUDGEB DC    XL16'BBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBB'    V1 FUDGE b
00001118  F1F2F3F4 F5F6F7F8                        445 V1INPUT  DC    CL16'1234567890123456'                    V1 input
00001128  F7F8F9F0 F1F2F3F4                        446          DC    CL14'78901234567890'
00001136  D9                                       447          DC    X'D9'
00001137  00000000 00000000                        448          DS    XL16                                          gap
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                                                   450 ***********************************************************************
                                                   451 *        E6TEST DSECT
                                                   452 ***********************************************************************

                                                   454 E6TEST   DSECT ,
00000000  00000000                                 455 TSUB     DC    A(0)           pointer  to test
00000004  0000                                     456 TNUM     DC    H'00'          Test Number
00000006  00                                       457          DC    XL1'00'
00000007  00                                       458 CC       DC    HL1'00'        cc
00000008  00                                       459 CCMASK   DC    HL1'00'        not expected CC mask
                                                   460
00000009  40404040 40404040                        461 OPNAME   DC    CL8' '         E6 name
                                                   462
00000014  00000000                                 463 RELEN    DC    A(0)           RESULT LENGTH
00000018  00000000                                 464 READDR   DC    A(0)           expected result address
                                                   465
                                                   466 **
                                                   467 *        test routine will be here (from VRR_G macro)
                                                   468 * followed by
                                                   469 *        16-byte EXPECTED RESULT
                                                   470 *        8-byte  byte source
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                                                   472 *******************************************************************
                                                   473 *     Macros to help build test tables
                                                   474 *------------------------------------------------------------------
                                                   475 *     VRR_G Macro to help build test tables
                                                   476 *******************************************************************
                                                   477          MACRO
                                                   478          VRR_G &INST,&CC
                                                   479 .*                                &INST  - instruction under test
                                                   480 .*                                &CC    - expected CC
                                                   481 .*
                                                   482          LCLA  &XCC(4)  &CC has mask values for FAILED condition codes
                                                   483 &XCC(1)  SETA  7                  CC != 0
                                                   484 &XCC(2)  SETA  11                 CC != 1
                                                   485 &XCC(3)  SETA  13                 CC != 2
                                                   486 &XCC(4)  SETA  14                 CC != 3
                                                   487
                                                   488          GBLA  &TNUM
                                                   489 &TNUM    SETA  &TNUM+1
                                                   490
                                                   491          DS    0FD
                                                   492          USING *,R5               base for test data and test routine
                                                   493
                                                   494 T&TNUM   DC    A(X&TNUM)          address of test routine
                                                   495          DC    H'&TNUM'           test number
                                                   496          DC    XL1'00'
                                                   497          DC    HL1'&CC'           cc
                                                   498          DC    HL1'&XCC(&CC+1)'   cc failed mask
                                                   499
                                                   500          DC    CL8'&INST'         instruction name
                                                   501
                                                   502          DC    A(16)              result length
                                                   503 REA&TNUM DC    A(RE&TNUM)         result address
                                                   504 .*
                                                   505 *                                 INSTRUCTION UNDER TEST ROUTINE
                                                   506 X&TNUM   DS    0F
                                                   507          VL    V1,RE&TNUM         get V1 source
                                                   508
                                                   509          &INST V1                 test instruction
                                                   510
                                                   511          EPSW  R2,R0              exptract psw
                                                   512          ST    R2,CCPSW               to save CC
                                                   513
                                                   514          BR    R11                return
                                                   515
                                                   516 RE&TNUM  DC    0F
                                                   517          DROP  R5
                                                   518
                                                   519          MEND
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                                                   521 ***********************************************************************
                                                   522 *     PTTABLE Macro to generate table of pointers to individual tests
                                                   523 ***********************************************************************
                                                   524
                                                   525          MACRO
                                                   526          PTTABLE
                                                   527          GBLA  &TNUM
                                                   528          LCLA  &CUR
                                                   529 &CUR     SETA  1
                                                   530 .*
                                                   531 TTABLE   DS    0F
                                                   532 .LOOP    ANOP
                                                   533 .*
                                                   534          DC    A(T&CUR)          address of test
                                                   535 .*
                                                   536 &CUR     SETA  &CUR+1
                                                   537          AIF   (&CUR LE &TNUM).LOOP
                                                   538 *
                                                   539          DC    A(0)              END OF TABLE
                                                   540          DC    A(0)
                                                   541 .*
                                                   542          MEND
  LOC          OBJECT CODE       ADDR1     ADDR2    STMT

                                                   544 ***********************************************************************
                                                   545 *        E6 VRR_G tests
                                                   546 ***********************************************************************
                              00000000  000013BB   547 ZVE6TST  CSECT ,
00001148                                           548          DS    0F


                                                   550          PRINT DATA
                                                   551 *
                                                   552 *        E65F VTP     - VECTOR TEST DECIMAL
                                                   553 *        VRR_G instr, cc
                                                   554 *              followed by
                                                   555 *              v1     - 16 byte source
                                                   556
                                                   557 *---------------------------------------------------------------------
                                                   558 * VTP     - VECTOR TEST DECIMAL
                                                   559 *---------------------------------------------------------------------
                                                   560 * VTP simple
                                                   561
                                                   562 * digits valid,  sign valid
                                                   563          VRR_G VTP,0
00001148                                           564+         DS    0FD
00001148                      00001148             565+         USING *,R5              base for test data and test routine
00001148  00001164                                 566+T1       DC    A(X1)             address of test routine
0000114C  0001                                     567+         DC    H'1'              test number
0000114E  00                                       568+         DC    XL1'00'
0000114F  00                                       569+         DC    HL1'0'            cc
00001150  07                                       570+         DC    HL1'7'            cc failed mask
00001151  E5E3D740 40404040                        571+         DC    CL8'VTP'          instruction name
0000115C  00000010                                 572+         DC    A(16)             result length
00001160  0000117C                                 573+REA1     DC    A(RE1)            result address
                                                   574+*                                INSTRUCTION UNDER TEST ROUTINE
00001164                                           575+X1       DS    0F
00001164  E710 5034 0006              0000117C     576+         VL    V1,RE1            get V1 source
0000116A  E601 0000 005F                           577+         VTP   V1                test instruction
00001170  B98D 0020                                578+         EPSW  R2,R0             exptract psw
00001174  5020 8E9C                   0000109C     579+         ST    R2,CCPSW              to save CC
00001178  07FB                                     580+         BR    R11               return
0000117C                                           581+RE1      DC    0F
0000117C                                           582+         DROP  R5
0000117C  00000000 00000000                        583          DC    XL16'0000000000000000000000000000000C'   V1 source
00001184  00000000 0000000C
                                                   584
                                                   585          VRR_G VTP,0
00001190                                           586+         DS    0FD
00001190                      00001190             587+         USING *,R5              base for test data and test routine
00001190  000011AC                                 588+T2       DC    A(X2)             address of test routine
00001194  0002                                     589+         DC    H'2'              test number
00001196  00                                       590+         DC    XL1'00'
00001197  00                                       591+         DC    HL1'0'            cc
00001198  07                                       592+         DC    HL1'7'            cc failed mask
00001199  E5E3D740 40404040                        593+         DC    CL8'VTP'          instruction name
000011A4  00000010                                 594+         DC    A(16)             result length
000011A8  000011C4                                 595+REA2     DC    A(RE2)            result address
                                                   596+*                                INSTRUCTION UNDER TEST ROUTINE
000011AC                                           597+X2       DS    0F
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

000011AC  E710 5034 0006                000011C4   598+             VL    V1,RE2             get V1 source
000011B2  E601 0000 005F                           599+             VTP   V1                 test instruction
000011B8  B98D 0020                                600+             EPSW  R2,R0              exptract psw
000011BC  5020 8E9C                     0000109C   601+             ST    R2,CCPSW               to save CC
000011C0  07FB                                     602+             BR    R11                return
000011C4                                           603+RE2          DC    0F
000011C4                                           604+             DROP  R5
000011C4  00000000 00000000                        605              DC    XL16'00000000000000000012345000000000D'   V1 source
000011CC  00123450 0000000D
                                                   606
                                                   607 * digits valid,  sign invalid
                                                   608              VRR_G VTP,1
000011D8                                           609+             DS    0FD
000011D8                      000011D8             610+             USING *,R5               base for test data and test routine
000011D8  000011F4                                 611+T3           DC    A(X3)              address of test routine
000011DC  0003                                     612+             DC    H'3'               test number
000011DE  00                                       613+             DC    XL1'00'
000011DF  01                                       614+             DC    HL1'1'             cc
000011E0  0B                                       615+             DC    HL1'11'            cc failed mask
000011E1  E5E3D740 40404040                        616+             DC    CL8'VTP'           instruction name
000011EC  00000010                                 617+             DC    A(16)              result length
000011F0  0000120C                                 618+REA3         DC    A(RE3)             result address
                                                   619+*                                     INSTRUCTION UNDER TEST ROUTINE
000011F4                                           620+X3           DS    0F
000011F4  E710 900C 0006                0000120C   621+             VL    V1,RE3             get V1 source
000011FA  E601 0000 005F                           622+             VTP   V1                 test instruction
00001200  B98D 0020                                623+             EPSW  R2,R0              exptract psw
00001204  5020 8E9C                     0000109C   624+             ST    R2,CCPSW               to save CC
00001208  07FB                                     625+             BR    R11                return
0000120C                                           626+RE3          DC    0F
0000120C                                           627+             DROP  R5
0000120C  00000000 00000000                        628              DC    XL16'00000000000000000000000000000009'   V1 source
00001214  00000000 00000009
                                                   629
                                                   630              VRR_G VTP,1
00001220                                           631+             DS    0FD
00001220                      00001220             632+             USING *,R5               base for test data and test routine
00001220  0000123C                                 633+T4           DC    A(X4)              address of test routine
00001224  0004                                     634+             DC    H'4'               test number
00001226  00                                       635+             DC    XL1'00'
00001227  01                                       636+             DC    HL1'1'             cc
00001228  0B                                       637+             DC    HL1'11'            cc failed mask
00001229  E5E3D740 40404040                        638+             DC    CL8'VTP'           instruction name
00001234  00000010                                 639+             DC    A(16)              result length
00001238  00001254                                 640+REA4         DC    A(RE4)             result address
                                                   641+*                                     INSTRUCTION UNDER TEST ROUTINE
0000123C                                           642+X4           DS    0F
0000123C  E710 5034 0006                00001254   643+             VL    V1,RE4             get V1 source
00001242  E601 0000 005F                           644+             VTP   V1                 test instruction
00001248  B98D 0020                                645+             EPSW  R2,R0              exptract psw
0000124C  5020 8E9C                     0000109C   646+             ST    R2,CCPSW               to save CC
00001250  07FB                                     647+             BR    R11                return
00001254                                           648+RE4          DC    0F
00001254                                           649+             DROP  R5
00001254  00000000 00000000                        650              DC    XL16'00000000000000000012345000000000'   V1 source
0000125C  00123450 00000000
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                                                   651
                                                   652 * a digit invalid, sign valid
                                                   653          VRR_G VTP,2
00001268                                           654+         DS    0FD
00001268                      00001268             655+         USING *,R5              base for test data and test routine
00001268  00001284                                 656+T5       DC    A(X5)             address of test routine
0000126C  0005                                     657+         DC    H'5'              test number
0000126E  00                                       658+         DC    XL1'00'
0000126F  02                                       659+         DC    HL1'2'            cc
00001270  0D                                       660+         DC    HL1'13'           cc failed mask
00001271  E5E3D740 40404040                        661+         DC    CL8'VTP'          instruction name
0000127C  00000010                                 662+         DC    A(16)             result length
00001280  0000129C                                 663+REA5     DC    A(RE5)            result address
                                                   664+*                                INSTRUCTION UNDER TEST ROUTINE
00001284                                           665+X5       DS    0F
00001284  E710 5034 0006                0000129C   666+         VL    V1,RE5            get V1 source
0000128A  E601 0000 005F                           667+         VTP   V1                test instruction
00001290  B98D 0020                                668+         EPSW  R2,R0             exptract psw
00001294  5020 8E9C                     0000109C   669+         ST    R2,CCPSW              to save CC
00001298  07FB                                     670+         BR    R11               return
0000129C                                           671+RE5      DC    0F
0000129C                                           672+         DROP  R5
0000129C  00000000 0FF00000                        673          DC    XL16'000000000FF00000000000000000000C'   V1 source
000012A4  00000000 0000000C
                                                   674
                                                   675          VRR_G VTP,2
000012B0                                           676+         DS    0FD
000012B0                      000012B0             677+         USING *,R5              base for test data and test routine
000012B0  000012CC                                 678+T6       DC    A(X6)             address of test routine
000012B4  0006                                     679+         DC    H'6'              test number
000012B6  00                                       680+         DC    XL1'00'
000012B7  02                                       681+         DC    HL1'2'            cc
000012B8  0D                                       682+         DC    HL1'13'           cc failed mask
000012B9  E5E3D740 40404040                        683+         DC    CL8'VTP'          instruction name
000012C4  00000010                                 684+         DC    A(16)             result length
000012C8  000012E4                                 685+REA6     DC    A(RE6)            result address
                                                   686+*                                INSTRUCTION UNDER TEST ROUTINE
000012CC                                           687+X6       DS    0F
000012CC  E710 5034 0006                000012E4   688+         VL    V1,RE6            get V1 source
000012D2  E601 0000 005F                           689+         VTP   V1                test instruction
000012D8  B98D 0020                                690+         EPSW  R2,R0             exptract psw
000012DC  5020 8E9C                     0000109C   691+         ST    R2,CCPSW              to save CC
000012E0  07FB                                     692+         BR    R11               return
000012E4                                           693+RE6      DC    0F
000012E4                                           694+         DROP  R5
000012E4  F0F00000 00000000                        695          DC    XL16'F0F0000000000000001234500000000F'   V1 source
000012EC  00123450 0000000F
                                                   696
                                                   697 * a digit invalid,  sign invalid
                                                   698          VRR_G VTP,3
000012F8                                           699+         DS    0FD
000012F8                      000012F8             700+         USING *,R5              base for test data and test routine
000012F8  00001314                                 701+T7       DC    A(X7)             address of test routine
000012FC  0007                                     702+         DC    H'7'              test number
000012FE  00                                       703+         DC    XL1'00'
000012FF  03                                       704+         DC    HL1'3'            cc
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

00001300  0E                                       705+         DC    HL1'14'           cc failed mask
00001301  E5E3D740 40404040                        706+         DC    CL8'VTP'          instruction name
0000130C  00000010                                 707+         DC    A(16)             result length
00001310  0000132C                                 708+REA7     DC    A(RE7)            result address
                                                   709+*                                INSTRUCTION UNDER TEST ROUTINE
00001314                                           710+X7       DS    0F
00001314  E710 5034 0006                0000132C   711+         VL    V1,RE7            get V1 source
0000131A  E601 0000 005F                           712+         VTP   V1                test instruction
00001320  B98D 0020                                713+         EPSW  R2,R0             exptract psw
00001324  5020 8E9C                     0000109C   714+         ST    R2,CCPSW              to save CC
00001328  07FB                                     715+         BR    R11               return
0000132C                                           716+RE7      DC    0F
0000132C                                           717+         DROP  R5
0000132C  00000000 0FF00000                        718          DC    XL16'000000000FF000000000000000000009'   V1 source
00001334  00000000 00000009
                                                   719
                                                   720          VRR_G VTP,3
00001340                                           721+         DS    0FD
00001340                      00001340             722+         USING *,R5              base for test data and test routine
00001340  0000135C                                 723+T8       DC    A(X8)             address of test routine
00001344  0008                                     724+         DC    H'8'              test number
00001346  00                                       725+         DC    XL1'00'
00001347  03                                       726+         DC    HL1'3'            cc
00001348  0E                                       727+         DC    HL1'14'           cc failed mask
00001349  E5E3D740 40404040                        728+         DC    CL8'VTP'          instruction name
00001354  00000010                                 729+         DC    A(16)             result length
00001358  00001374                                 730+REA8     DC    A(RE8)            result address
                                                   731+*                                INSTRUCTION UNDER TEST ROUTINE
0000135C                                           732+X8       DS    0F
0000135C  E710 5034 0006                00001374   733+         VL    V1,RE8            get V1 source
00001362  E601 0000 005F                           734+         VTP   V1                test instruction
00001368  B98D 0020                                735+         EPSW  R2,R0             exptract psw
0000136C  5020 8E9C                     0000109C   736+         ST    R2,CCPSW              to save CC
00001370  07FB                                     737+         BR    R11               return
00001374                                           738+RE8      DC    0F
00001374                                           739+         DROP  R5
00001374  F0F00000 00000000                        740          DC    XL16'F0F00000000000000012345000000002'   V1 source
0000137C  00123450 00000002
                                                   741
00001384  00000000                                 742          DC    F'0'     END OF TABLE
00001388  00000000                                 743          DC    F'0'
                                                   744 *
                                                   745 * table of pointers to individual load test
                                                   746 *
0000138C                                           747 E6TESTS  DS    0F
                                                   748          PTTABLE
0000138C                                           749+TTABLE   DS    0F
0000138C  00001148                                 750+         DC    A(T1)             address of test
00001390  00001190                                 751+         DC    A(T2)             address of test
00001394  000011D8                                 752+         DC    A(T3)             address of test
00001398  00001220                                 753+         DC    A(T4)             address of test
0000139C  00001268                                 754+         DC    A(T5)             address of test
000013A0  000012B0                                 755+         DC    A(T6)             address of test
000013A4  000012F8                                 756+         DC    A(T7)             address of test
000013A8  00001340                                 757+         DC    A(T8)             address of test
                                                   758+*
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

000013AC  00000000                                 759+         DC    A(0)              END OF TABLE
000013B0  00000000                                 760+         DC    A(0)
                                                   761
000013B4  00000000                                 762          DC    F'0'     END OF TABLE
000013B8  00000000                                 763          DC    F'0'
```

```
  LOC        OBJECT CODE        ADDR1     ADDR2    STMT

                                                   765 ***********************************************************************
                                                   766 *        Register equates
                                                   767 ***********************************************************************


                              00000000  00000001   769 R0       EQU   0
                              00000001  00000001   770 R1       EQU   1
                              00000002  00000001   771 R2       EQU   2
                              00000003  00000001   772 R3       EQU   3
                              00000004  00000001   773 R4       EQU   4
                              00000005  00000001   774 R5       EQU   5
                              00000006  00000001   775 R6       EQU   6
                              00000007  00000001   776 R7       EQU   7
                              00000008  00000001   777 R8       EQU   8
                              00000009  00000001   778 R9       EQU   9
                              0000000A  00000001   779 R10      EQU   10
                              0000000B  00000001   780 R11      EQU   11
                              0000000C  00000001   781 R12      EQU   12
                              0000000D  00000001   782 R13      EQU   13
                              0000000E  00000001   783 R14      EQU   14
                              0000000F  00000001   784 R15      EQU   15








                                                   786 ***********************************************************************
                                                   787 *        Register equates
                                                   788 ***********************************************************************


                              00000000  00000001   790 V0       EQU   0
                              00000001  00000001   791 V1       EQU   1
                              00000002  00000001   792 V2       EQU   2
                              00000003  00000001   793 V3       EQU   3
                              00000004  00000001   794 V4       EQU   4
                              00000005  00000001   795 V5       EQU   5
                              00000006  00000001   796 V6       EQU   6
                              00000007  00000001   797 V7       EQU   7
                              00000008  00000001   798 V8       EQU   8
                              00000009  00000001   799 V9       EQU   9
                              0000000A  00000001   800 V10      EQU   10
                              0000000B  00000001   801 V11      EQU   11
                              0000000C  00000001   802 V12      EQU   12
                              0000000D  00000001   803 V13      EQU   13
                              0000000E  00000001   804 V14      EQU   14
                              0000000F  00000001   805 V15      EQU   15
                              00000010  00000001   806 V16      EQU   16
                              00000011  00000001   807 V17      EQU   17
                              00000012  00000001   808 V18      EQU   18
                              00000013  00000001   809 V19      EQU   19
                              00000014  00000001   810 V20      EQU   20
                              00000015  00000001   811 V21      EQU   21
  LOC        OBJECT CODE       ADDR1     ADDR2    STMT

                              00000016  00000001   812 V22       EQU   22
                              00000017  00000001   813 V23       EQU   23
                              00000018  00000001   814 V24       EQU   24
                              00000019  00000001   815 V25       EQU   25
                              0000001A  00000001   816 V26       EQU   26
                              0000001B  00000001   817 V27       EQU   27
                              0000001C  00000001   818 V28       EQU   28
                              0000001D  00000001   819 V29       EQU   29
                              0000001E  00000001   820 V30       EQU   30
                              0000001F  00000001   821 V31       EQU   31
                                                   822
                                                   823           END
```

```
     SYMBOL        TYPE   VALUE      LENGTH    DEFN  REFERENCES

BEGIN               I    00000200           2   150  115  146  147  148
CC                  U    00000007           1   458  249
CCFOUND             X    000010A4           1   431  236  256
CCMASK              U    00000008           1   459  216
CCMSG               U    0000030A           1   229  223
CCPRTEXP            C    0000104B           1   411  253
CCPRTGOT            C    0000105B           1   414  260
CCPRTLINE           C    00001008          16   406  416  263
CCPRTLNG            U    00000055           1   416  262
CCPRTNAME           C    00001035           8   409  246
CCPRTNUM            C    00001018           3   407  244
CCPSW               F    0000109C           4   430  233  579  601  624  646  669  691  714  736
CTLR0               F    000004C4           4   367  160  161  162  163
DECNUM              C    00001089          16   426  241  243  250  252  257  259
E6TEST              4    00000000          28   454  211
E6TESTS             F    0000138C           4   747  202
EDIT                X    0000105D          18   421  242  251  258
ENDTEST             U    00000396           1   281  207
EOJ                 I    000004A8           4   357  195  284
EOJPSW              D    00000498           8   355  357
FAILCONT            U    00000386           1   271  266
FAILED              F    00001000           4   397  273  282
FAILPSW             D    000004B0           8   359  361
FAILTEST            I    000004C0           4   361  285
FB0001              F    00000288           8   179  183  184  186
IMAGE               1    00000000        5052     0
K                   U    00000400           1   380  381  382  383
K64                 U    00010000           1   382
MB                  U    00100000           1   383
MSG                 I    000003E0           4   317  194  300
MSGCMD              C    0000042E           9   347  330  331
MSGMSG              C    00000437          95   348  324  345  322
MSGMVC              I    00000428           6   345  328
MSGOK               I    000003F6           2   326  323
MSGRET              I    00000416           4   341  334  337
MSGSAVE             F    0000041C           4   344  320  341
NEXTE6              U    000002DC           1   204  221  276
OPNAME              C    00000009           8   461  246
PAGE                U    00001000           1   381
PRT3                C    00001073          18   424  242  243  244  251  252  253  258  259  260
R0                  U    00000000           1   769  109  160  163  183  185  186  187  192  209  262  272  273  299  301  317
                                                     320  322  324  326  341  578  600  623  645  668  690  713  735
R1                  U    00000001           1   770  193  216  217  218  233  234  235  236  263  282  283  331  345
R10                 U    0000000A           1   779  148  157  158
R11                 U    0000000B           1   780  213  214  580  602  625  647  670  692  715  737
R12                 U    0000000C           1   781  202  205  220  275
R13                 U    0000000D           1   782
R14                 U    0000000E           1   783
R15                 U    0000000F           1   784  264  294  304  305
R1FUDGE             X    000010A8           8   437
R1OUTPUT            F    000010E0           8   441
R2                  U    00000002           1   771  194  240  241  248  249  250  255  256  257  299  300  301  318  320  326
                                                     327  328  330  336  341  342  578  579  600  601  623  624  645  646  668
                                                     669  690  691  713  714  735  736
R3                  U    00000003           1   772
R4                  U    00000004           1   773
```

```
     SYMBOL        TYPE   VALUE      LENGTH    DEFN  REFERENCES

R5                  U    00000005           1   774  205  206  211  295  303  565  582  587  604  610  627  632  649  655  672
                                                     677  694  700  717  722  739
R6                  U    00000006           1   775
R7                  U    00000007           1   776
R8                  U    00000008           1   777  146  150  151  152  154
R9                  U    00000009           1   778  147  154  155  157
RE1                 F    0000117C           4   581  573  576
RE2                 F    000011C4           4   603  595  598
RE3                 F    0000120C           4   626  618  621
RE4                 F    00001254           4   648  640  643
RE5                 F    0000129C           4   671  663  666
RE6                 F    000012E4           4   693  685  688
RE7                 F    0000132C           4   716  708  711
RE8                 F    00001374           4   738  730  733
REA1                A    00001160           4   573
REA2                A    000011A8           4   595
REA3                A    000011F0           4   618
REA4                A    00001238           4   640
REA5                A    00001280           4   663
REA6                A    000012C8           4   685
REA7                A    00001310           4   708
REA8                A    00001358           4   730
READDR              A    00000018           4   464
REG2LOW             U    000000DD           1   387
REG2PATT            U    AABBCCDD           1   386
RELEN               A    00000014           4   463
RPTDWSAV            D    000003D0           8   310  299  301
RPTERROR            I    000003A4           4   294  264
RPTSAVE             F    000003C4           4   307  294  304
RPTSVR5             F    000003C8           4   308  295  303
SKL0001             U    00000054           1   176  192
SKT0001             C    0000022A          26   173  176  193
SVOLDPSW            U    00000140           0   111
T1                  A    00001148           4   566  750
T2                  A    00001190           4   588  751
T3                  A    000011D8           4   611  752
T4                  A    00001220           4   633  753
T5                  A    00001268           4   656  754
T6                  A    000012B0           4   678  755
T7                  A    000012F8           4   701  756
T8                  A    00001340           4   723  757
TESTCC              I    00000306           4   223  218
TESTING             F    00001004           4   398
TNUM                H    00000004           2   456  240
TSUB                A    00000000           4   455  213
TTABLE              F    0000138C           4   749
V0                  U    00000000           1   790
V1                  U    00000001           1   791  576  577  598  599  621  622  643  644  666  667  688  689  711  712  733
                                                     734
V10                 U    0000000A           1   800
V11                 U    0000000B           1   801
V12                 U    0000000C           1   802
V13                 U    0000000D           1   803
V14                 U    0000000E           1   804
V15                 U    0000000F           1   805
V16                 U    00000010           1   806
```

```
     SYMBOL        TYPE   VALUE      LENGTH    DEFN  REFERENCES

V17                 U    00000011          1    807
V18                 U    00000012          1    808
V19                 U    00000013          1    809
V1FUDGE             X    000010F8         16    443
V1FUDGEB            X    00001108         16    444
V1INPUT             C    00001118         16    445
V1OUTPUT            X    000010C0         16    439
V2                  U    00000002          1    792
V20                 U    00000014          1    810
V21                 U    00000015          1    811
V22                 U    00000016          1    812
V23                 U    00000017          1    813
V24                 U    00000018          1    814
V25                 U    00000019          1    815
V26                 U    0000001A          1    816
V27                 U    0000001B          1    817
V28                 U    0000001C          1    818
V29                 U    0000001D          1    819
V3                  U    00000003          1    793
V30                 U    0000001E          1    820
V31                 U    0000001F          1    821
V4                  U    00000004          1    794
V5                  U    00000005          1    795
V6                  U    00000006          1    796
V7                  U    00000007          1    797
V8                  U    00000008          1    798
V9                  U    00000009          1    799
X0001               U    000002B0          1    182  170  183
X1                  F    00001164          4    575  566
X2                  F    000011AC          4    597  588
X3                  F    000011F4          4    620  611
X4                  F    0000123C          4    642  633
X5                  F    00001284          4    665  656
X6                  F    000012CC          4    687  678
X7                  F    00001314          4    710  701
X8                  F    0000135C          4    732  723
XC0001              U    000002D8          1    196  188
ZVE6TST             J    00000000       5052    108  111  113  117  121  396  109
=A(E6TESTS)         A    000004D0          4    372  202
=AL2(L'MSGMSG)      R    000004DE          2    376  322
=F'1'               F    000004D8          4    374  272
=F'2'               F    000004CC          4    371  187
=H'0'               H    000004DC          2    375  317
=XL4'3'             X    000004D4          4    373  235
```

```
 MACRO   DEFN  REFERENCES

FCHECK     60   169
PTTABLE   526   748
VRR_G     478   563   585   608   630   653   675   698   720
```

```
   DESC      SYMBOL  SIZE     POS        ADDR

Entry: 0

Image      IMAGE    5052  0000-13BB  0000-13BB
  Region            5052  0000-13BB  0000-13BB
    CSECT  ZVE6TST  5052  0000-13BB  0000-13BB
   STMT                          FILE NAME

1     /home/tn529/sharedvfp/tests/zvector-e6-14-testdecimal.asm

** NO ERRORS FOUND **
```