

```
08:12:06 test      MZ390 START USING z390 v1.8.0-41-g3861e20 ON J2SE 11.0.15 05/07/22
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AZ390I program = /home/bill/Downloads/Computers/Emulators/Assembler390/z390/MyStuff/Test/test
AZ390I options =
    sysmac(+ /home/bill/Downloads/Computers/Emulators/Assembler390/z390/mac)
    syscpy(+ /home/bill/Downloads/Computers/Emulators/Assembler390/z390/mac)
```

```
External Symbol Definitions
ESD=0001 LOC=00000000 LEN=00000118 TYPE=CST NAME=TEST
```

Assembler Listing

```
000000      (1/1)1 *****
000000      (1/2)2 *
000000      (1/3)3 * Change a string of Uppercase letters to lowercase
000000      (1/4)4 *
000000      (1/5)5 * By: Bill B
000000      (1/6)6 * On: 04/23/2022
000000      (1/7)7 *****
000000      (1/8)8      TITLE 'Test'
000000      (1/9)9      PRINT NOGEN      expand macros?
000000      (1/10)10 TEST      SUBENTRY
000072      (1/11)23 *
LISTUSE TEST      ESD=0001 LOC=00000008 LEN=01000 REG=D OFF=00000 LAB=
000072      (1/12)24 *      Setup loop to lowercase a string
000072 4150002B      (1/13)25      LA      R5,L'STRING Length of STRING
000076 4160D0D9      0000E1      (1/14)26      LA      R6,STRING      Address of STRING
00007A 4570D09E      0000A6      (1/15)27 INIT      BAL      R7,LOWER      Perform Lower
00007E 4A60D108      000110      (1/16)28      AH      R6,=H'1'      Next position in STRING
000082 4650D072      00007A      (1/17)29      BCT      R5,INIT      Decrement R5 then goto INIT until zero
000086      (1/18)30 *
000086      00000086      (1/19)31 ENDRTN      EQU      *
000086      (1/20)32      WTO      'BYE!'
000094      (1/21)38      SUBEXIT
0000A6      (1/22)45 *
0000A6      000000A6      (1/23)46 LOWER      EQU      *
0000A6      (1/24)47      WTO      '%%%%%%%% Lower %%%%%%%%%'
0000C6 95406000      (1/25)53      CLI      0(R6),X'40' Ignore spaces
0000CA 0787      (1/26)54      BER      R7
0000CC 94BF6000      (1/27)55      NI      0(R6),B'10111111'      AND
0000D0 07F7      (1/28)56      BR      R7
0000D2      (1/29)57 *****
0000D2      (1/30)58 *      Data area      *
0000D2      (1/31)59 *****
0000D8      (1/32)60      DS      0D      Align on Doubleword.
0000D8      (1/33)61 DBLWRD      DS      D
0000E0      (1/34)62 START      DS      0H
0000E0 7B      (1/35)63 CHAR      DC      C'#'
0000E1      (1/36)64 *      STRING contains all the letters of the alphabet
0000E1 E3C8C540D8E4C9C3      (1/37)65 STRING      DC      C'THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG'
00010C 7B7B7B      (1/38)66      DC      C'###'
000110      (1/39)67 END      DS      0H
000110      (1/40)68 *      PRINT GEN
000110      (1/41)69      YREGS      ,
000110      (1/42)87      END      TEST
000110 0001      =H'1'
```

Symbol Table Listing

```
SYM=CHAR      LOC=000000E0 LEN=00000001 ESD=0001 TYPE=REL      XREF=63
```

