```
-bash-4.1$ cat main.asm
main:   lodd arg1:
        push
        call lcshft:
        stod rslt:
        halt
        .LOC 8
arg1:   7
rslt:   0
```

```
-bash-4.1$ cat lcshift.asm
lcshft: lodl 1
        jneg add1:
        addl 1
        retn
add1:   addl 1
        addd c1:
        retn
c1:     1
```

```
-$ ./masm_mrd -o < main.asm
   0  U0000000000000000 arg1:
   1  1111010000000000
   2  U1110000000000000 lcshft:
   3  U0001000000000000 rslt:
   4  1111111111000000
   8  0000000000000111
   9  0000000000000000
  4096 x
    rslt:                    9
    arg1:                    8
    main:                    0
```

```
-$ ./masm_mrd -o < lcshift.asm
   0  1000000000000001
   1  U1100000000000000 add1:
   2  1010000000000001
   3  1111100000000000
   4  1010000000000001
   5  U0010000000000000 c1:
   6  1111100000000000
   7  0000000000000001
  4096 x
    c1:                      7
    add1:                    4
    lcshft:                  0
```

Linking Multiple mic1 Source Files

```
-bash-4.1$ cat main.asm
main:   lodd arg1:
        push
        call lcshft:
        stod rslt:
        halt
        .LOC 8
arg1:   7
rslt:   0
```

```
-bash-4.1$ cat lcshift.asm
lcshft: lodl 1
        jneg add1:
        addl 1
        retn
add1:   addl 1
        addd c1:
        retn
c1:     1
```

```
-bash-4.1$ ./linker -s main.obj lcshift.obj
  FIRST PASS
     0  U0000000000000000  arg1:
     1  1111010000000000
     2  U1110000000000000  lcshft:
     3  U0001000000000000  rslt:
     4  1111111111000000
     8  0000000000000111
     9  0000000000000000
     10  1000000000000001
     11  U1100000000000000  add1:
     12  1010000000000001
     13  1111100000000000
     14  1010000000000001
     15  U0010000000000000  c1:
     16  1111100000000000
     17  0000000000000001

            SYMBOL TABLE
  add1:                          14
  arg1:                           8
  c1:                            17
  lcshft:                        10
  main:                           0
  rslt:                           9
```

```
SECOND PASS
    0:  0000000000001000
    1:  1111010000000000
    2:  1110000000001010
    3:  0001000000001001
    4:  1111111111000000
    5:  1111111111111111
    6:  1111111111111111
    7:  1111111111111111
    8:  0000000000000111
    9:  0000000000000000
   10:  1000000000000001
   11:  1100000000001110
   12:  1010000000000001
   13:  1111100000000000
   14:  1010000000000001
   15:  0010000000010001
   16:  1111100000000000
   17:  0000000000000001
```

```
-bash-4.1$ ./masm_mrd -o < main.asm > main.obj
-bash-4.1$ ./masm_mrd -o < lcshift.asm > lcshift.obj
-bash-4.1$ ./linker main.obj lcshift.obj > my_prog.exe
-bash-4.1$ cat my_prog.exe
0000000000001000
1111010000000000
1110000000001010
0001000000001001
1111111111000000
1111111111111111
1111111111111111
1111111111111111
0000000000000111
0000000000000000
1000000000000001
1100000000001110
1010000000000001
1111100000000000
1010000000000001
0010000000010001
1111100000000000
0000000000000001
```

```
-bash-4.1$ ./mic1 prom_mrd_v1.dat my_prog.exe 0 1024
Read in 152 micro instructions
Read in 18 machine instructions
Starting PC is : 0000000000000000  base 10:        0
Starting SP is : 0000010000000000  base 10:     1024

ProgramCounter : 0000000000000101  base 10:        5
Accumulator    : 0000000000001110  base 10:       14
InstructionReg : 1111111111000000  base 10:    65472
TempInstr      : 1000000000000000  base 10:    32768
StackPointer   : 0000001111111111  base 10:     1023
ARegister      : 1010001111111111  base 10:    41983
BRegister      : 0000000000000000  base 10:        0
CRegister      : 0000000000000000  base 10:        0
DRegister      : 0000000000000000  base 10:        0
ERegister      : 0000000000000000  base 10:        0
FRegister      : 0000000000000000  base 10:        0

Total cycles   : 91

Type decimal address,  q  to quit or  c  to continue: 9
 the location  9 has value 0000000000001110 , or 14  or signed 14
```