

2. Write an assembly program that implements the following algorithm:

$w \leftarrow 11$

$y \leftarrow 6$

$x \leftarrow 4$

$z \leftarrow (w + y) * x$

Clearly mark which register you are using to store the output z - you may do so with comments in the code or annotations on the screenshots. You will have to convert 11 into hexadecimal, otherwise, you will not get the expected output.

T:\Architecture Labs\Lab2\Untitled.ASM

File Edit View Examples Help

AL 00001011 0B +011 IP 00010010 12 +018
BL 00000110 06 +006 SP 10111111 BF -065
CL 00000100 04 +004 SR 00000000 00 +000
DL 01000100 44 +068 IS0Z

END Program has halted.

☐ Write Run Log ☐ Log Assembler Activity

Source Code | List File | Configuration | Tokens | Run Log

MOV AL,B; The register AL is storing 11(w)
MOV BL,6; The register AL is storing 6(y)
MOV CL,4; The register CL is storing 4 (x)
ADD DL,AL; The register DL is storing the value in AL (11)
ADD DL,BL; The register CL is storing (w+y) (17)
MUL DL,CL; The register DL is storing the output (68)
END

RAM Hexadecimal View

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
00	D0	00	0B	D0	01	06	D0	02	04	A0	03	00	A0	03	01	A2
10	03	02	00	00	00	00	00	00	00	00	00	00	00	00	00	00
20	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
30	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
40	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
50	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
60	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
70	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
80	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
90	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
A0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
B0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
C0	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
D0	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
E0	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
F0	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20

☒ Hexadecimal ☐ ASCII ☐ Source

3. Write an assembly program that implements the following algorithm:

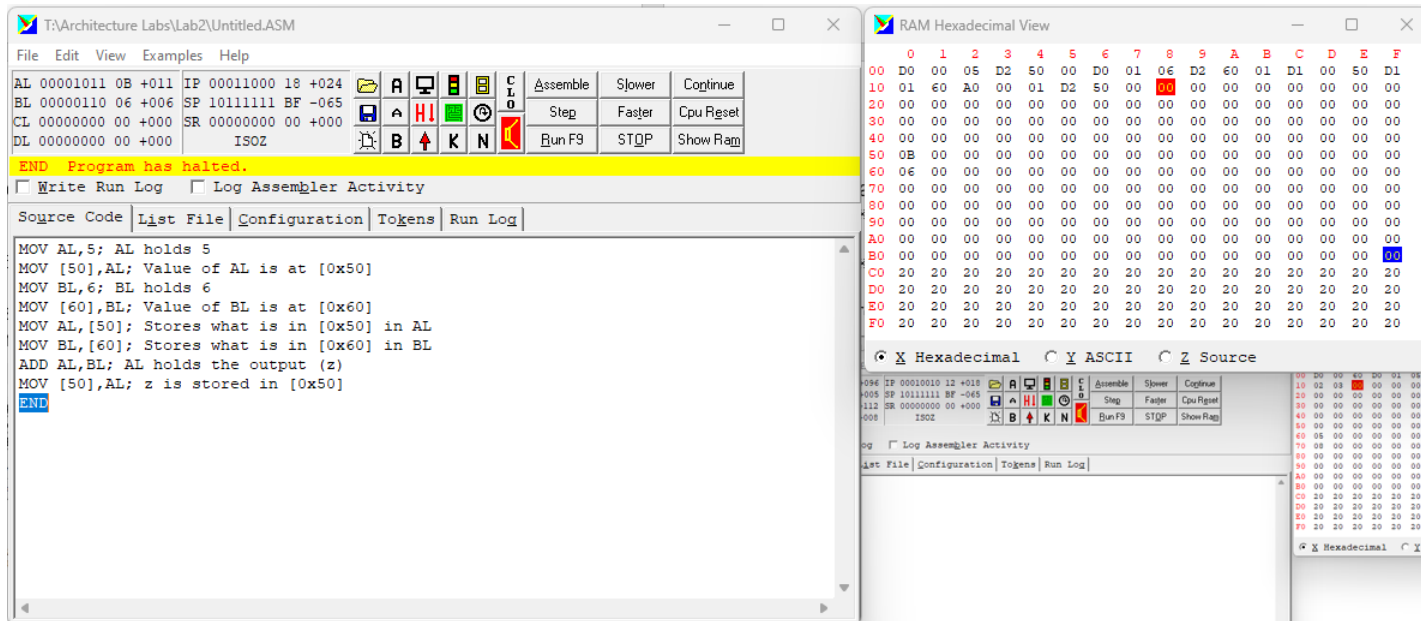
[0x50] <- 5

[0x60] <- 6

z <- [0x50] + [0x60]

[0x50] <- z

Clearly mark which register you are using for the output z. Don't take shortcuts: show the instructions for writing to and reading from memory.



4. Write an assembly program that implements the following algorithm:

x ← 0x60

[x] ← 5

y ← 0x70

[y] ← 8

Use indirect addressing to write to memory.

