

1. Assume that the memory has 256 cells. Decode instruction encoded as hexadecimal notation and decide the contents of the following cells of memory after every instructions:

Instructions discussed in last class: 116C 2201 3201

Try more instructions: 4032 5231 7231 8231
 9231 A202 B200 C000

Execute the following instructions (starting from 00)

RAM

Address	Initial contents	Final contents after instructions
00	15	
01	6C	
02	16	
03	6D	
04	50	
05	56	
06	30	
07	6E	
08	C0	
09	00	
0A	50	
0B	00	
.....		
6C	23	
6D	11	
6E	00	34
....		
FF	00	

Registers	Initial contents	Final contents after instructions
R0	FF	34
R1	23	
R2	00	
R3	11	
R4	00	
R5	00	23
R6	00	11
....		
R15	00	
PC	00	0A
IR	FFFF	C000

2. Translate instructions (Question 7 in page 89)

3. Program Execution

3. An Example of execution of instructions: Question 3 in page 96 (Assume the machine is started with its program counter containing A4)

Address	Contents
A4	20
A5	00
A6	21
A7	02
A8	22
A9	01
AA	B1
AB	B0
AC	50
AD	02
AE	B0
AF	AA
B0	C0
B1	00
.....	
6C	23
6D	11
6E	00
....	
FF	00

Registers	Initial contents	Content after the execution of instruction at address A8	Content after the first execution of instruction at address AA	Content after the second execution of instruction at address AA
R0	00	00	00	01
R1	00	02	02	02
R2	00	01	01	01
....				
R15	00			
PC	A4	AA	AC	AC
IR	0000	2201	B1B0	B1B0

It implements the following C for loop statement:

for (int i=0; i<2; i++);

