

CPE 235 Assembly Language and Microprocessors
Quiz #1

1.5
10

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Q1) Fill in the blanks with the correct answers:

- a) A processor with 16-bit data bus and 24-bit address bus can address up to 2²⁴ byte of memory.
- b) The IO.SYS program is loaded into the TBA of the memory, and its function is to

Q2) Assume that an imaginary processor has a 16-bit data bus and a 16-bit address bus, in the table below, fill in the values that will be on the address, data, and control lines in each clock cycle in order to read the instruction located at memory location 1500H of the memory segment shown in the figure below.

1503	00
1502	5B
1501	04
1500	BE
14FF	00
14FE	BF

	Address Bus	Data Bus	\overline{MRDC}	\overline{MWTC}	\overline{IORC}	\overline{IOWC}
Cycle #1		XXXX				
Cycle #2	XXXX			X		

Q3)

- a) Write the directives required to define the following data in memory on an Intel microprocessor:

- I. The number -1024. $\rightarrow 2 \rightarrow$ ~~1875~~
- 1 00001010 000000
- II. The number -10.1875 in single precision. 1010
- 1 00000100 0011 0000

- b) Fill the data you defined the way it will be stored in memory starting from address 1000.

100A	
1009	
1008	
1007	
1006	
1005	
1004	
1003	
1002	
1001	
1000	

0.1875
0.3750
0.750
1.5
0.3
0.6
1.2
0.4
0.8
1.6