

This is the student portion of Problem Set 5

Problems:

- 1) 5.16
- 2) 5.22

The instructions should be

```
x3000  1110 0110 0011 1111
x3001  0110 1000 1100 0000
x3002  0110 1101 0000 0000
```

- 3) 5.23
  - a. (TRAP x25 is a HALT instruction)
- 4) 5.17
- 5) a) We are encoding the instruction for memory location x3000. We want the instruction to Load the the contents of Memory at address x2FEF into R5.

**For part b and c refer to the following table which contains the known memory contents and Register contents. If a value is blank it means the contents are unknown.**

Register	Value
R0	0x0002
R1	0x3000
R2	0x0001
R3	0x0000
R4	0x0000
R5	0x0000
R6	0x5000
R7	0x0000

Memory Address	Value
0x3006	0x3009
0x3007	0x0EEE
0x3008	0x0008
0x3009	0x6000

**b)** We are encoding the instruction for memory location x3001. Encode the instruction (in hex) that would load the contents of memory in location x501E into R2.

**c)** We are encoding the instruction for memory location x3002. Encode the instruction (in hex) that would Store the value in R0 into memory location x6000. Note that this can be done in a single instruction.