

Assignment 8

Chapter 8

- 1)
Mar, Ir, Acc, Out, Mem
- 2)
Pc, Mar, Ir, Acc, Out, Mem
Yes, the RTA state includes the ISA state.
- 3)
- 4)
- 5)
The hlt signal (0xF-) creates a signal that is feeds into a nand gate, so when the Hlt instruction is read, the nand gate is no longer outputting 1. This signal is fed into an AND gate to which the clock signal is also feeding into. So When the NAND gate is no longer outputting 1, the AND gate that the clock and the former signal is feeding into no longer can output 1, and the machine is literally halted.
- 6)
4 bits = 15 opcodes.
- 7)

Instruction	Format
Lda M	000mmmmm
Add M	001mmmmm
Sub M	010mmmmm
Sta M	011mmmmm
Jump M	100mmmmm
Jaz M	101mmmmm
Out M	110xxxxx
Hlt M	111xxxxx
- 8)

- 9)

- 10)