Led CPU With ROM

Design Description:

- Led CPU is a simple processer. It reads instructions from ROM, and executes these instructions.
- It can execute 2 command. These are jump and delay.

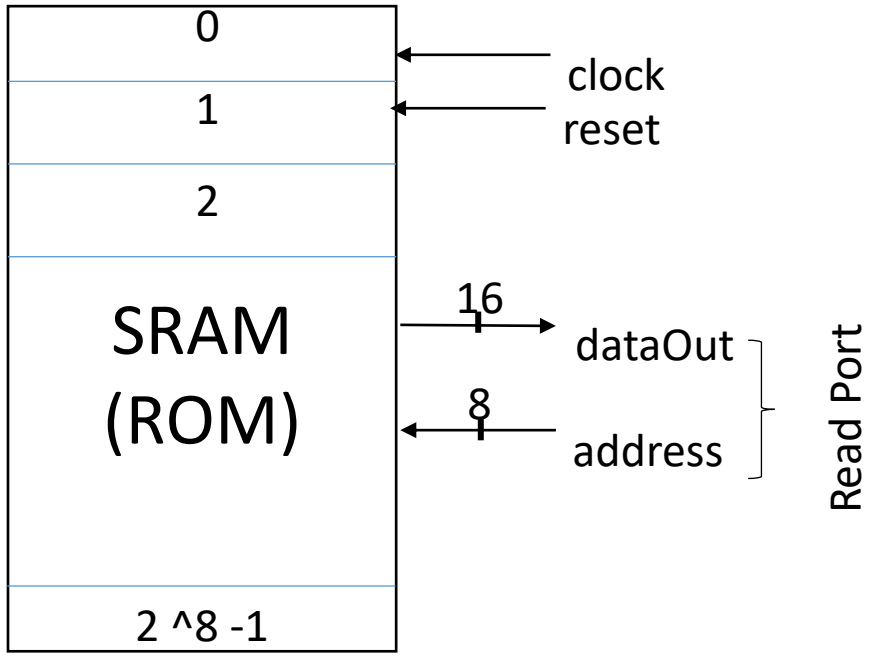
Design I/O:

rst: 1 bit input for reset

clk: 1 bit input for clock

outPattern: 7 bits output for LEDs

Design I/O:



Design Behavior:

- ROM has 256 entries and each entry has 16 bits length instruction. First 8 bits are for data or address. Second 8 bits out of 16 are for delay time.
- Your design should start executing from zeroth address, and it should continue executing one by one.
- For jump command: If second 8 bits are equal to zero, it will continue executing the instruction at the address shown by the first 8 bits part.
- For delay command: If second 8 bits are not equal to zero, it will gives first 8 bits to output for a time. This time information comes from second 8 bits part.