CS 270 Recitation 8
LC-3 operation

This recitation teaches you about the sequence of operations performed for each instruction in the LC-3 microarchitecture using the LC-3 visualizer, including the use of registers and the active control signals. This will be helpful later in the semester when you implement the logic for a portion of the LC-3.
https://www.cs.colostate.edu/~cs270/.Spring18/resources/LC3_VISUALIZER.php

Use the table on the next page or this spreadsheet to complete the assignment.
https://www.cs.colostate.edu/~cs270/.Spring18/recitations/R8/R8.xlsx

For each step of an instruction, mark

- the registers read with an R
- the registers written with a W
- the active control signals with an X

Note the flow of data in the registers in the steps of an instruction, along with the common groups of control signals.

	Inst	#	Registers (R/W)								Active Signals																				
											Marmux				Memory						IR/PC				ALU					
			SR1	SR2	IR	PC	MAR	MDR	DR	NZP	ADDR1MUX	ADDR2MUX	MARMUX	GateMARMUX	MIO.EN	MEM.EN	MEM.RW	LD.MDR	GateMDR	LD.MAR	LD.IR	PCMUX	LD.PC	GatePC	SR2MUX	ALUK	GateALU	LD.REG	LD.CC		
Fetch	All	1																												
	All	2																												
	All	3																												
Control	BR	4																												
	JMP	4																												
	JSR	4																												
	JSRR	4																												
	RET	4																												
	TRAP	4																												
	TRAP	5																												
	TRAP	6																												
Operate	ADDR	4																												
	ADDI	4																												
	ANDR	4																												
	ANDI	4																												
	NOT	4																												
Memory	LEA	4																												
	LD	4																												
	LD	5																												
	LD	6																												
	LDR	4																												
	LDR	5																												
	LDR	6																												
	LDI	4																												
	LDI	5																												
	LDI	6																												
	LDI	7																												
	LDI	8																												
	ST	4																												
	ST	5																												
	ST	6																												
	STR	4																												
	STR	5																												
	STR	6																												
	STI	4																												
	STI	5																												
	STI	6																												
	STI	7																												
	STI	8																												