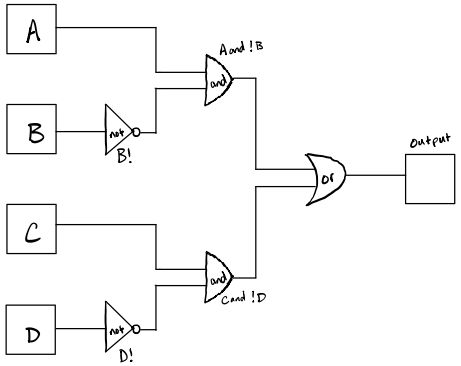
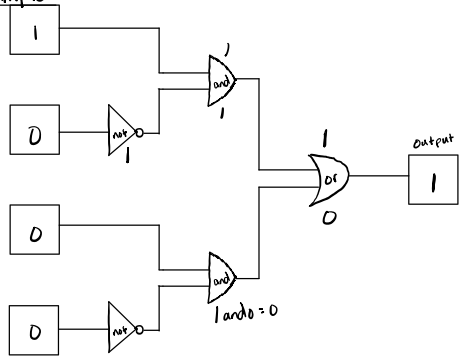
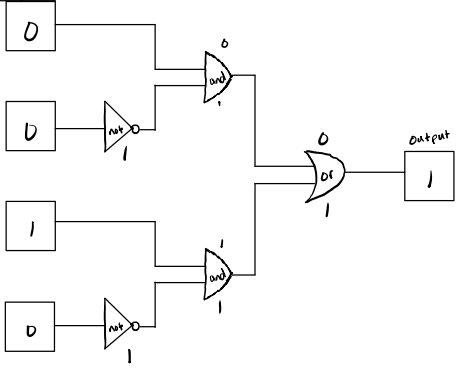
1) Output "1" iff A is on and B is off or C is on and B is off



Example: A and !B



Example: C and !D



2)

Stage	OPq rA, rB	rrmovq rA, rB	irmovq V, rB
Fetch	icode:ifun ← M_1[PC] rA:rB ← M_1[PC + 1] valP ← PC + 2	icode:ifun ← M_1[PC] rA:rB ← M_1[PC + 1] valP ← PC + 2	icode:ifun ← M_1[PC] rA:rB ← M_1[PC + 1] valC ← M_8[PC + 2] valP ← PC + 10
Decode	valA ← R[rA] valB ← R[rB]	valA ← R[rA]	
Execute	valE ← valB OP valA Set CC	valE ← 0 + valA	valE ← 0 + valC
Memory			
Write back	R[rB] ← valE	R[rB] ← valE	R[rB] ← valE
PC update	PC ← valP	PC ← valP	PC ← valP

Stage	iaddq V, rB
Fetch	ifun ← M_1[PC] rA:rB ← M_1[PC+1] valC ← M_8[PC+2] valP ← PC + 10
Decode	valB ← R[rB]
Execute	valE ← valC + valB Set CC
Memory	
Write Backup	R[rB] ← valE
PC update	PC ← valP