NAME:

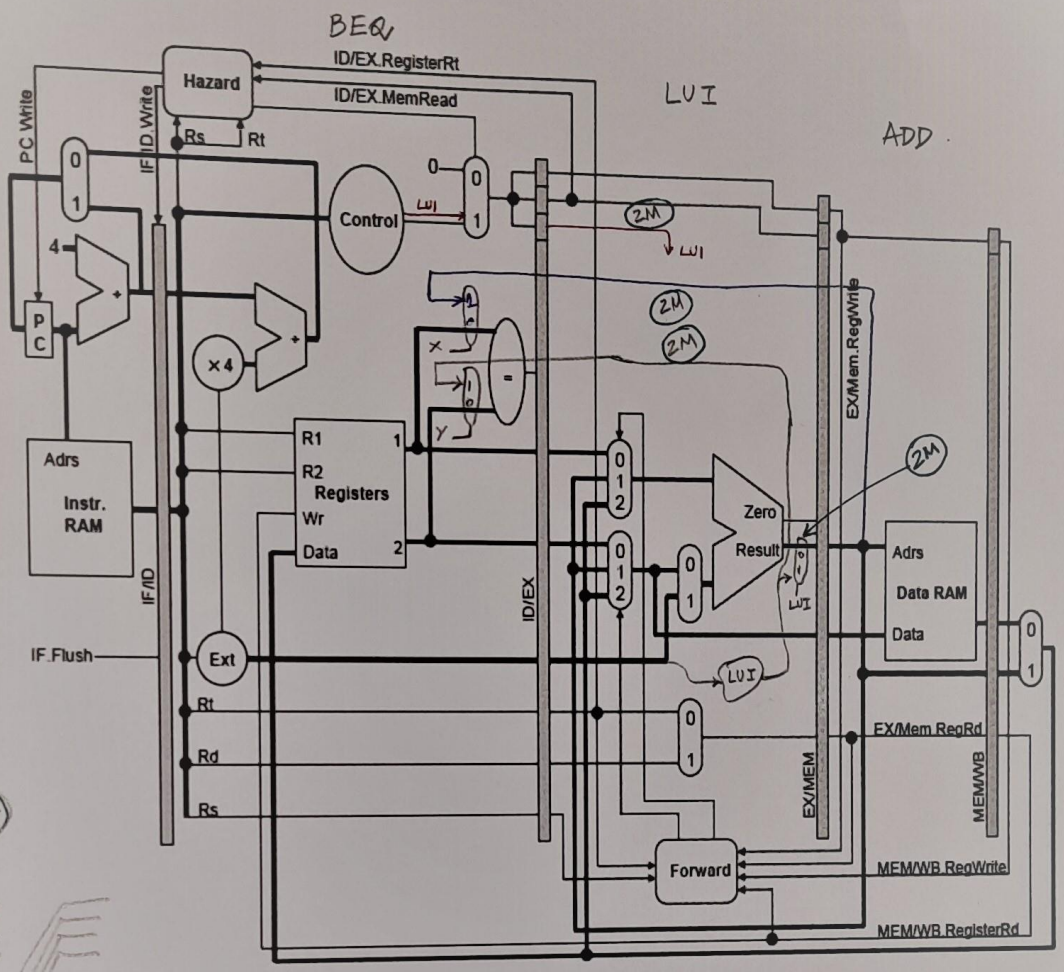
ID:

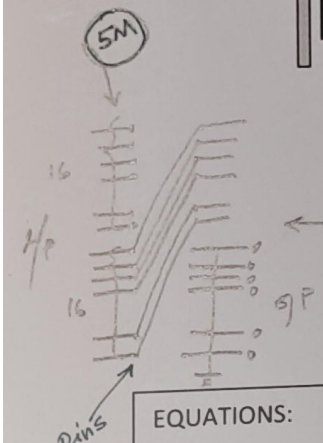
ADD → IF ID E M WB

LUI → IF ID E M WB

BEQ → IF ID E M WB

Answer :





EQUATIONS:

IF/ID.opcode == Br

ID/EX.LUI = 1

ID/EX.r_t == IF/ID.r_t

then Y = 1

IF/ID.opcode = Br

EX/MEM.regwrite = 1

EX/MEM.rd == IF/ID.r_s

Then X = 1.

ZM

Instr/cyc	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
ADD R2, R2, R1	IF	ID	EX	M	WB															
ORI R3, R2,4		IF	ID	ID	ID	E	M	W												
SW R2, 9(R3)			IF	IF	IF	ID	ID	ID	E	M	W									
SUB R3, R3, R1						IF	IF	IF	ID	E	M	W								
SW R3 10(R2)									IF	ID	ID	ID	E	M	W					
LW R4 10(R2)										IF	IF	IF	ID	E	M	W				
BNEZ R4 LOOP													IF	ID	ID	ID	ID	E	M	W

First Instruction----No Marks

Next Six Instructions----2.5 Marks each