



Cycle #	wr Mem	wrC	wr Reg	selReg [1:0]	selBus [1:0]	wrA	wrB	ALU op[1:0]	Micro-operation	Overall Operation
<b>Question 5a)</b>										
1	0	1	0	XX	01	0	0	XX	$C \leftarrow \$01$	Mem[C] $\leftarrow$ R2 *Quizzes a and c*
2	1	0	0	10	00	0	0	XX	Mem[C] $\leftarrow$ R2	
<b>Question 5b)</b>										
1	0	1	0	XX	01	0	0	XX	$C \leftarrow \$01$	R2 $\leftarrow$ Mem[1] *Quizzes b and d*
2	0	0	1	10	00	0	0	XX	R2 $\leftarrow$ Mem[C]	
<b>Question 5b)</b>										
1	0	0	0	XX	01	1	1	XX	$A \leftarrow \$01, B \leftarrow \$01$	R2/R1 $\leftarrow$ R1/R3 + Mem[2] *Quizzes a and d*
2	0	1	0	XX	11	0	0	00	$C \leftarrow A + B$	
3	0	0	0	XX	00	1	0	XX	$A \leftarrow \text{Mem}[C]$	
4	0	0	0	01/11	10	0	1	XX	$B \leftarrow R1/R3$	
5	0	0	1	10/01	11	0	0	00	$R2/R1 \leftarrow A + B$	
<b>Question 5b)</b>										
1	0	0	0	XX	01	1	1	XX	$A \leftarrow \$01, B \leftarrow \$01$	R3 $\leftarrow$ 2 + Mem[R1] *Quizzes b and c*
2	0	0	0	XX	11	1	0	00	$A \leftarrow A + B$	
3	0	1	0	01	10	0	0	XX	$C \leftarrow R1$	
4	0	0	0	XX	00	0	1	XX	$B \leftarrow \text{Mem}[C]$	
5	0	0	1	11	11	0	0	00	$R3 \leftarrow A + B$	

\*The top solutions for a) and b) are for quizzes a and c. The bottom solutions are for quizzes b and d.