

Instruction	RTL	Registers							Memory			
		A	B	C	PC	IR	MAR	MBR	14 (Q)	15 (R)	16 (S)	17 (T)
Initial	–	??	??	??	00	21	??	??	3A	19	FD	00
LOAD S (21)	$MAR \leftarrow S$ $MBR \leftarrow M[MAR]$ $A \leftarrow MBR$ $PC \leftarrow PC + 2$ $IR \leftarrow M[PC]$	FD	??	??	02	10	16	FD	3A	19	FD	00
MOV C, A (10)	$C \leftarrow A$ $PC \leftarrow PC + 2$ $IR \leftarrow M[PC]$	FD	??	FD	04	21	16	FD	3A	19	FD	00
LOAD R (21)	$MAR \leftarrow R$ $MBR \leftarrow M[MAR]$ $A \leftarrow MBR$ $PC \leftarrow PC + 2$ $IR \leftarrow M[PC]$	19	??	FD	06	10	15	19	3A	19	FD	00
MOV B, A (10)	$B \leftarrow A$ $PC \leftarrow PC + 2$ $IR \leftarrow M[PC]$	19	19	FD	08	21	15	19	3A	19	FD	00
LOAD Q (21)	$MAR \leftarrow Q$ $MBR \leftarrow M[MAR]$ $A \leftarrow MBR$ $PC \leftarrow PC + 2$ $IR \leftarrow M[PC]$	3A	19	FD	0A	50	14	3A	3A	19	FD	00
SUB A, B (50)	$A \leftarrow A - B$ $PC \leftarrow PC + 2$ $IR \leftarrow M[PC]$	21	19	FD	0C	40	14	3A	3A	19	FD	00
ADD A, C (40)	$A \leftarrow A + C$ $PC \leftarrow PC + 2$ $IR \leftarrow M[PC]$	1E	19	FD	0E	31	14	3A	3A	19	FD	00

STORE T (31)	MAR \leftarrow T MBR \leftarrow A M[MAR] \leftarrow MBR PC \leftarrow PC + 2 IR \leftarrow M[PC]	1E	19	FD	10	??	17	1E	3A	19	FD	1E
-----------------	--	----	----	----	-----------	-----------	-----------	-----------	----	----	----	-----------

For each instruction in the program, above, fill out the entire row of register and memory values after that instruction executes. Highlight in **bold** and/or **red** any values that have changed because of this current instruction.