

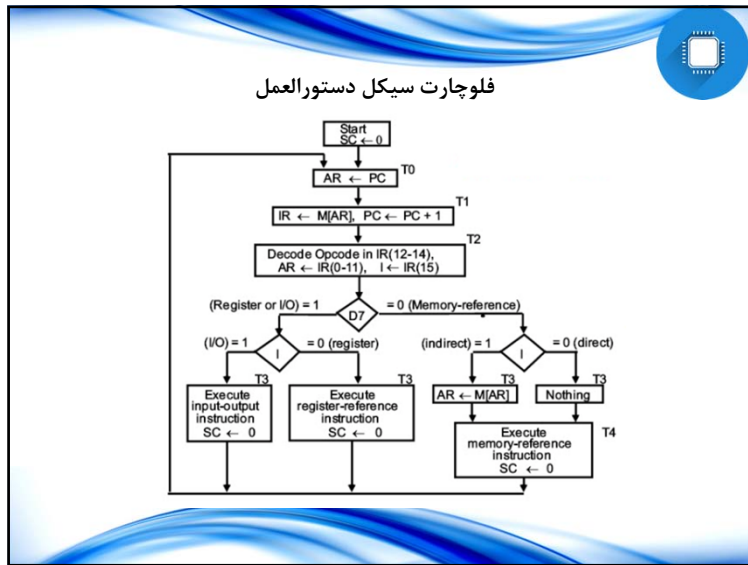
زمانبندی T0 و T1

T0

1. Place the content of PC onto the bus by making the bus selection inputs S_2, S_1, S_0 equal to 010.
2. Transfer the content of the bus to AR by enabling the LD input of AR.

T1

1. Enable the read input of memory.
2. Place the content of memory onto the bus by making $S_2, S_1, S_0 = 111$.
3. Transfer the content of the bus to IR by enabling the LD input of IR.
4. Increment PC by enabling the INR input of PC.



چهار حالت مختلف دستورات

$D_7 I T_3$: $AR \leftarrow M[AR]$
 $D_7 I T_3$: Nothing
 $D_7 I T_3$: Execute a register-reference instruction
 $D_7 I T_3$: Execute an input-output instruction

دستورات مراجعه به ثبات ها

$D_7I'T_3$ symbol r

$$D_7I'T_3B_{11} = rB_{11}.$$

CLA code 7800
0111 1000 0000 0000

The AC is positive when the sign bit in $AC(15) = 0$,
it is negative when $AC(15) = 1$

جدول دستورات مراجعه به ثبات ها

TABLE 5-3 Execution of Register-Reference Instructions

$D_7I'T_3 = r$ (common to all register-reference instructions)		
$IR(i) = B_i$ [bit in $IR(0-11)$ that specifies the operation]		
	r : $SC \leftarrow 0$	Clear SC
CLA	rB_{11} : $AC \leftarrow 0$	Clear AC
CLE	rB_{10} : $E \leftarrow 0$	Clear E
CMA	rB_9 : $AC \leftarrow \overline{AC}$	Complement AC
CME	rB_8 : $E \leftarrow \overline{E}$	Complement E
CIR	rB_7 : $AC \leftarrow shr AC, AC(15) \leftarrow E, E \leftarrow AC(0)$	Circulate right
CIL	rB_6 : $AC \leftarrow shl AC, AC(0) \leftarrow E, E \leftarrow AC(15)$	Circulate left
INC	rB_5 : $AC \leftarrow AC + 1$	Increment AC
SPA	rB_4 : If $(AC(15) = 0)$ then $(PC \leftarrow PC + 1)$	Skip if positive
SNA	rB_3 : If $(AC(15) = 1)$ then $(PC \leftarrow PC + 1)$	Skip if negative
SZA	rB_2 : If $(AC = 0)$ then $PC \leftarrow PC + 1$	Skip if AC zero
SZE	rB_1 : If $(E = 0)$ then $(PC \leftarrow PC + 1)$	Skip if E zero
HLT	rB_0 : $S \leftarrow 0$ (S is a start-stop flip-flop)	Halt computer