

## Assignment - 02

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AD: 011173 066

section: C

Course Code: ~~429~~ CSF 429

Opcode: 0011, Mnemonic: DSB, Action:  $A \leftarrow A - 2B$

$T_4: B \leftarrow \text{RAM}[\text{MAR}]; \quad \text{CE}', \text{LB}'$

$T_5: A \leftarrow A - B \quad ; \quad L A' S_{\text{in}} E_{\text{in}}$

15.  $T_6: A \leftarrow A - B; LA', Su, Eu$

$T_6: A \leftarrow A - B; \quad \bar{L}_0$   
 $CON = C_P \cdot E_P \cdot \bar{L}_m \cdot \bar{C}E \cdot \bar{L}_I \cdot \bar{E}_I \cdot \bar{L}_A \cdot E_A \cdot S_u \cdot E_u \cdot \bar{L}_s \cdot \bar{L}_o$

$$CON = C_p \cdot E_p \cdot L_m \cdot CE \cdot LT = 0 \cdot 0 \cdot 1 \cdot 0 \cdot 1 \cdot 1 \cdot 1 \cdot 0 \cdot 0 \cdot 0 \cdot 0$$
$$T_4 = 0 \quad 0 \quad 1 \quad 0 \quad 1 \quad 1 \quad 1 \quad 0 \quad 0 \quad 0 \quad 0$$
$$\geq 2E1H$$

$T_5 = 0 \quad 0 \quad 1 \quad 1 \quad 1 \quad 1 \quad 0 \quad 0 \quad 1 \quad 1 \quad 1 \quad 1$   
 $= 3CFH$

$$T_6 = 0 \ 0 \ 1 \ 1 \ 1 \ 1 \ 0 \ 0 \ 1 \ 1 \ 1 \ 1 = 3 \text{ ePH}$$

Opcode: 0100, Mnemonic: RBS, Action:  $A \leftarrow 0$

$T_4: B \leftarrow A; \bar{E}_A, \bar{L}_B$

$T_5: A \leftarrow A - B; \bar{L}_A, S_0, E_u$

$T_6: \text{None};$

$CON = C_p \cdot E_p \cdot \bar{L}_m \cdot \bar{C}_E \cdot \bar{L}_I \cdot \bar{E}_I \cdot \bar{L}_A \cdot E_A \cdot S_0 \cdot \bar{E}_u \cdot \bar{L}_B \cdot \bar{L}_0$

$T_4 = 001111100001 = 3F1H$

$T_5 = 001111001111 = 3CFH$

$T_6 = 001111100011 = 3F3H$

# Control Rom

Address	Contents	Routine	Active
10H	2 E 1 H	DSB	CE', LB'
11H	3 C F H		LA', Su, Eu
12H	3 C F H		LA', Su, Eu
13H	3 F 1 H	RES	EA, LB'
14H	3 C F H		LA, Su, Eu
15H	3 E 3 H		None

# Address ROM

Address	Contents	Routine
0000	0011	LDA
0001	0110	ADD
0010	1001	SUB
0011	00010000	D3B
0100	00010011	RES
0101	xxxx	None
0110	xxxx	None
0111	x xxx	None
1000	xxxx	None
1001	xxxx	None
1010	xxxx	None
1011	xxxx	None
1100	xxxx	None

Address	Contents	Range
1101	xxxx	None
1110	1100	OUT
1111	xxxx	None