Microprocessor, Assembly Language & Computer Interfacing Sessional

EEE-3212

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Lab-5: Find the Maximum and minimum number using the 8085 microprocessor.

8085 program to find maximum of two 8 bit numbers

Problem – Write an assembly language program to find the maximum of two 8-bit numbers in the 8085 microprocessor.

Assumptions – Starting memory locations and output memory locations are 2050, 2051 and 3050 respectively.

Example:

Input data	15	25
Memory address	2050	2051

Output data	25
Memory address	3050

Algorithm –

1. Load value in the accumulator
2. Then, copy the value to any of the register.
3. the Load next value in the accumulator
4. Compare both values
5. Check carry flag, if reset then jump to the required address to store the value
6. Copy the result in the accumulator
7. Store the result at the required address

Explanation –

1. LDA 2050: loads value at memory location 2050
2. MOV B, A: assigns value of A to B
3. LDA 2051: loads value at memory location 2051
4. CMP B: compare values by subtracting B from A
5. JNC 200C: jump at memory location 200C if carry flag is Reset(Carry flag = 0)
6. STA 3050: store result at memory location 3050
7. HLT: terminates the program

Program –

MEMORY ADDRESS	MNEMONICS	COMMENTS
2000	LDA 2050	A<-25
2003	MOV B, A	B<-25
2004	LDA 2051	A<-15
2007	CMP B	A-B
2008	JNC 200C	Jump if Carry flag is Reset(Carry flag = 0)
200B	MOV A, B	A<-25
200C	STA 3050	3050<-25

8085 program to find largest number of an array data

Problem – Problem – Write an assembly language program in 8085 microprocessor to find largest number of an array of data

Example –

Input:

2500 → 6
2501 → 10
2502 → 3
2503 → 1
2504 →15
2505 →8
2506 →21

Output:

2508 → 21

Labels	Mnemonics
	LXI H, 2500
	MOV C,M
	INX H
	MOV A,M
	DCR C
SKIP:	INX H

Labels	Mnemonics
	CMP M
	JNC LOOP
	MOV A,M
LOOP:	DCR C
	JNZ SKIP
	STA 2508
	HLT

Thank You