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Class: **B. Tech 3rd year**

Q13: Write and execute a program in the assembly language of 8085 to find HCF of given two integers stored at a given location.

Tool used: 8085 simulator

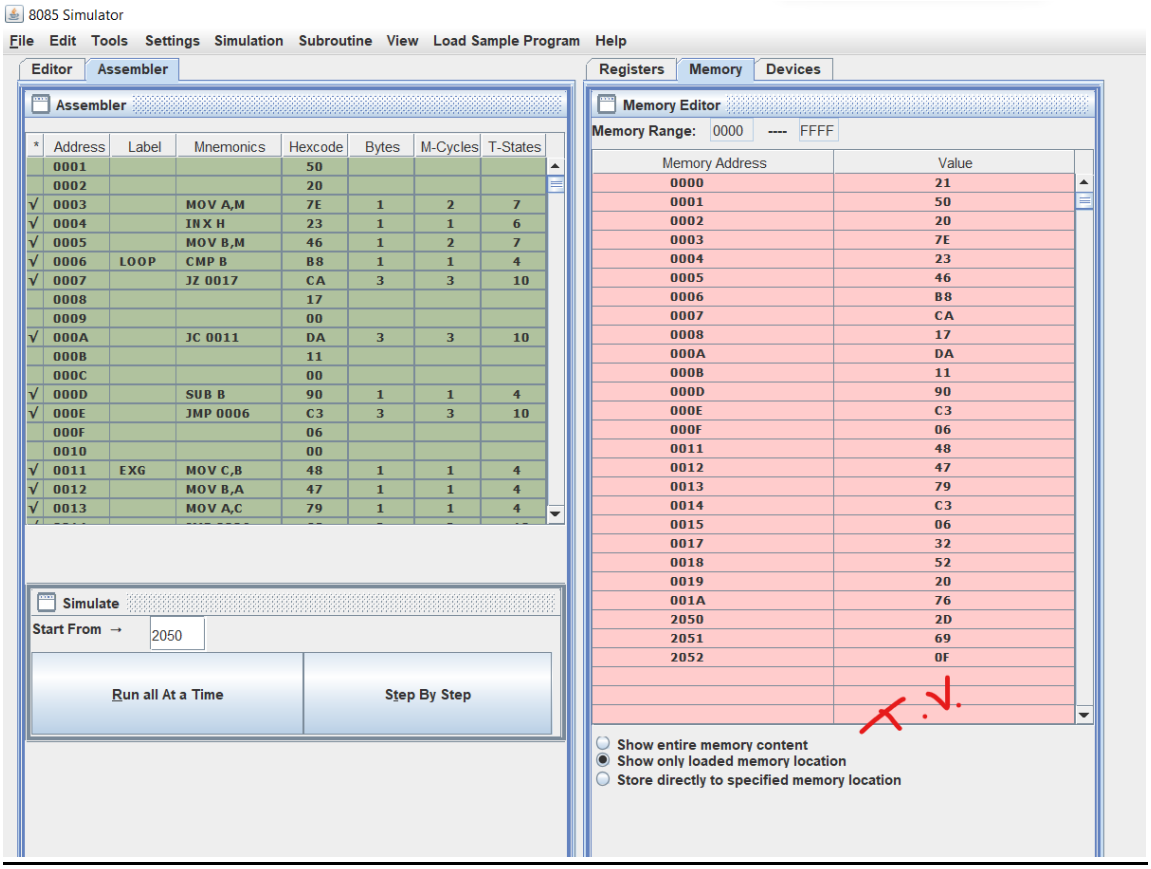
Program:

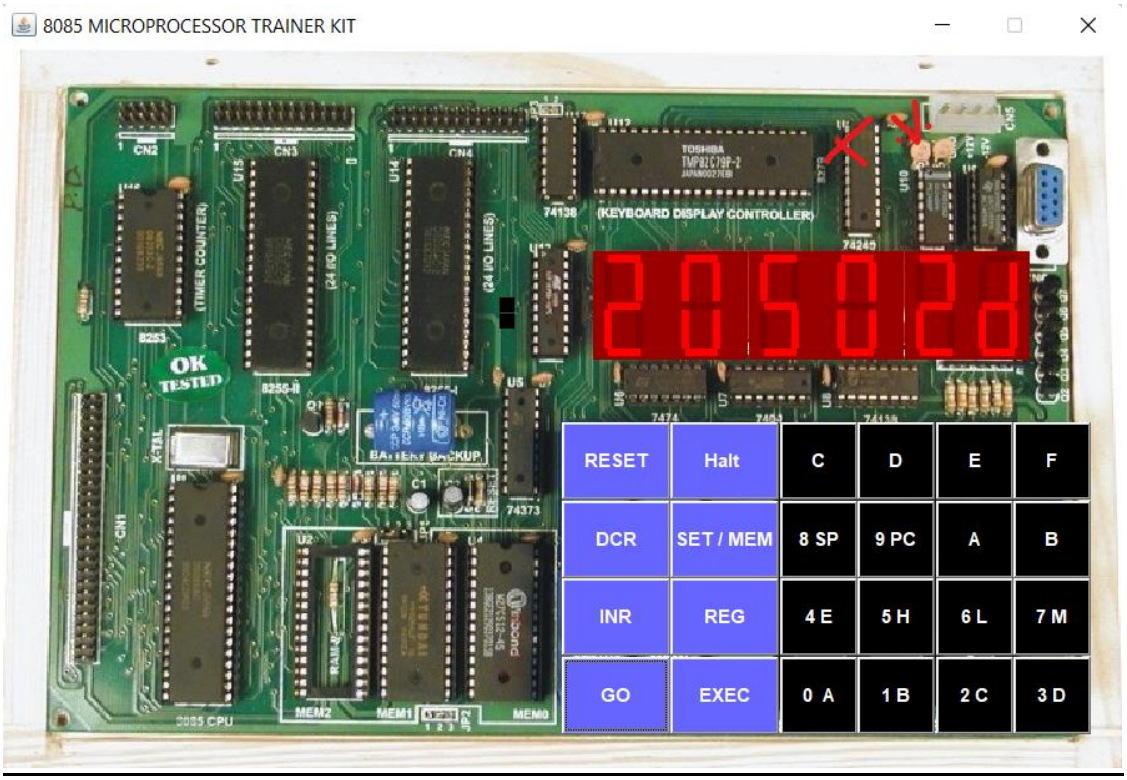
Address	Assembly Code	Hex Code	Comments
0000	LXI H, 2050H	21 50 20	Point reg H to memory location 2050H (first Num)
0003	MOV A,M	7E	Move memory to Accumulator.
0004	INX H	23	Increase the pointed location by 1
0005	MOV B,M	46	Move memory to reg B
0006	LOOP: CMP B	B8	Compare B with A
0007	JZ STORE	CA 17 00	If both are equal then store the result
000A	JC EXG	DA 00 11	If B>A, then swap values
000D	SUB B	90	If B<A, subtract B from A
000E	JMP LOOP	C3 06 00	Jump to Label LOOP
0011	EXG: MOV C,B	48	Move value in reg B to reg C

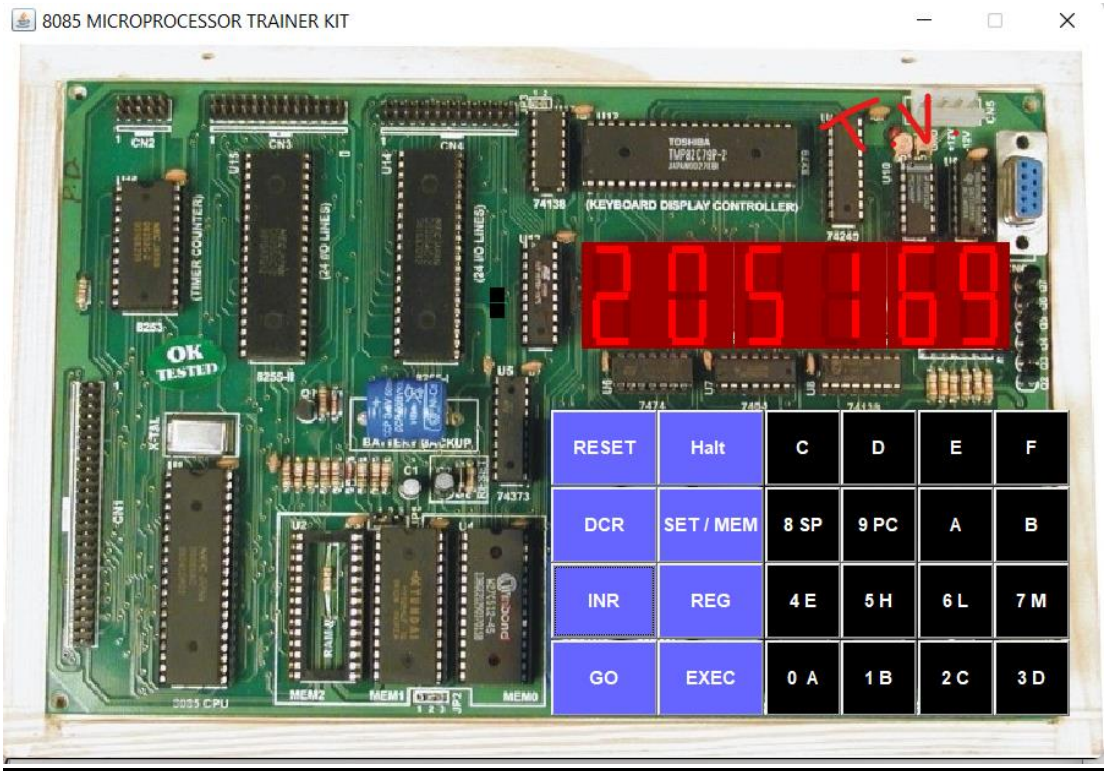
0012	MOV B,A	47	Move value in Accumulator to reg B
0013	MOV A,C	79	Move value in reg C to Accumulator
0014	JMP LOOP	C3 06 00	Jump to Label LOOP
0017	STORE: STA 2052H	32 52 20	Store value of Accumulator in memory location 2052H
001A	HLT	76	Halt

Address	Data
2050H	2D
2051H	69
2052H	0F

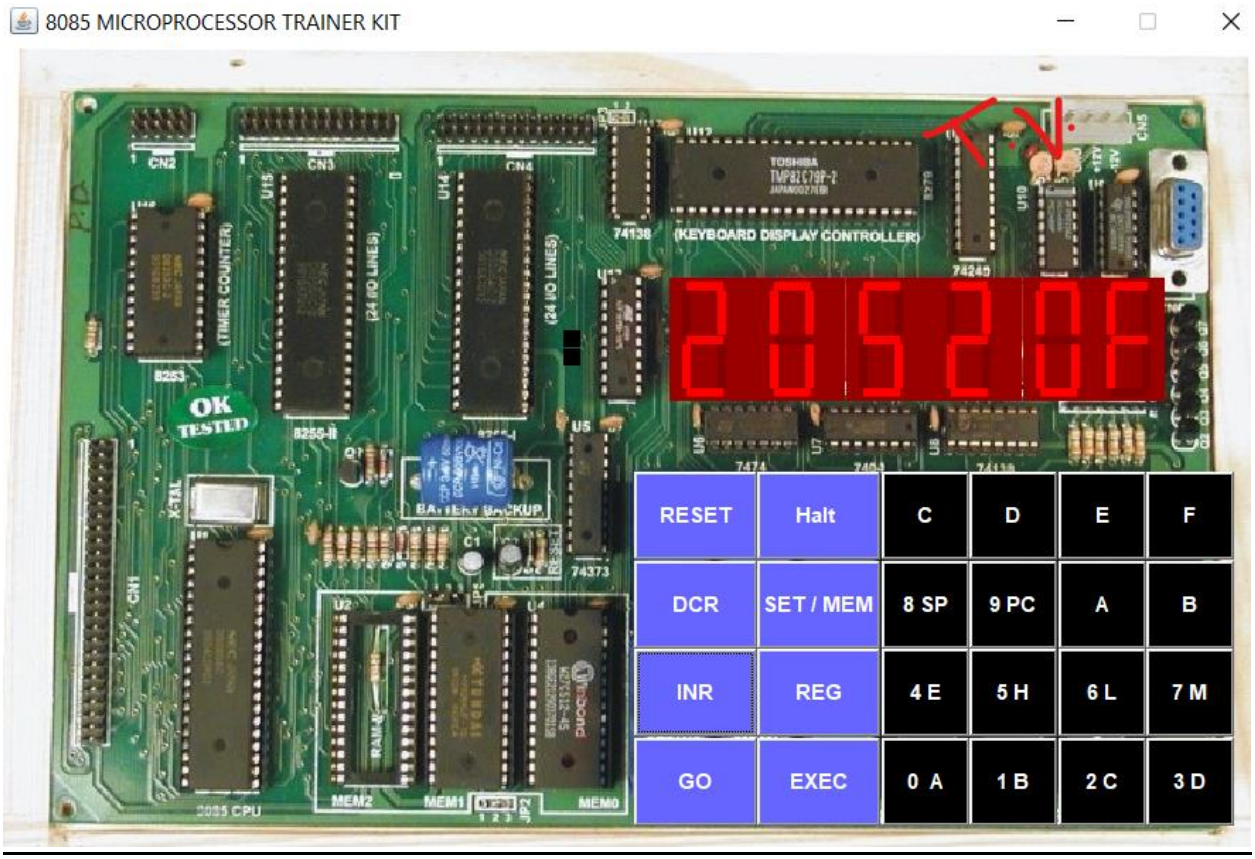
Input:


8085 Simulator
File Edit Tools Settings Simulation Subroutine View Load Sample Program Help
Editor Assembler
Assembler
Simulate
Start From →
2050
Run all At a Time
Step By Step
Registers Memory Devices
Memory Editor
Memory Range: 0000 ---- FFFF
Memory Address Value
0000 21
0001 50
0002 20
0003 7E
0004 23
0005 46
0006 B8
0007 CA
0008 17
000A DA
000B 11
000D 90
000E C3
000F 06
0011 48
0012 47
0013 79
0014 C3
0015 06
0017 32
0018 52
0019 20
001A 76
2050 2D
2051 69
2052 0F
Show entire memory content
Show only loaded memory location
Store directly to specified memory location


8085 MICROPROCESSOR TRAINER KIT
(KEYBOARD DISPLAY CONTROLLER)
RESET
Halt
C
D
E
F
DCR
SET / MEM
8 SP
9 PC
A
B
INR
REG
4 E
5 H
6 L
7 M
GO
EXEC
0 A
1 B
2 C
3 D


8085 MICROPROCESSOR TRAINER KIT
(KEYBOARD DISPLAY CONTROLLER)
RESET
Halt
C
D
E
F
DCR
SET / MEM
8 SP
9 PC
A
B
INR
REG
4 E
5 H
6 L
7 M
GO
EXEC
0 A
1 B
2 C
3 D

Output:


8085 MICROPROCESSOR TRAINER KIT
(KEYBOARD DISPLAY CONTROLLER)
OK TESTED
RESET
Halt
C
D
E
F
DCR
SET / MEM
8 SP
9 PC
A
B
INR
REG
4 E
5 H
6 L
7 M
GO
EXEC
0 A
1 B
2 C
3 D