Name: Tanmay Vig

Roll No. : 19BCS061

Class: 3rd year (5th sem)

Experiment 4: Write a program to add N 8-bit numbers stored at consecutive locations starting from 2050H and store their 16 bit sum at following address.

Memory Address	Assembly code	Hex code	Comments
0000	LXI H, 2050H	21 50 20	Loads data at memory position 2050H to Reg H
0003	MOV C, M	4E	Moves data in memory to reg C.
0004	MVI A, 00H	3E 00	Stores value 00 to reg A
0006	MVI E, 00H	1E 00	Stores value 00 to reg E.
0008	BACK: INX H	23	Increase value of reg H by 1.
0009	ADD M	86	Adds value in memory with accumulator value and stores it in accumulator
000A	JNC NEXT	D2 0E 00	Jumps to Label Next if no carry
000D	INR E	1C	Increase value of reg E by 1
000E	NEXT: DCR C	0D	Decrease value in reg C by 1
000F	JNZ BACK	C2 08 00	Jump to label BACK if c not zero
0012	INX H	23	Increase value of reg H by 1
0013	MOV M,A	77	Move value stored in A to memory
00014	INX H	23	Increase value of reg H by 1
0015	MOV M, E	73	Move value stored in E to memory
0016	HLT	76	HALT

Procedure:

Step – 1: Writing program in memory.

1. Press Reset
2. Press SET/MEM
3. Type in Address 0000
4. Press Enter
5. Type 1st Hex Code (Here 21)
6. Press Enter

7. Follow Step 5 and 6 to type in all Hex Codes

Step – 2: Assigning Values to the Address Location

1. Press Reset
2. Press SET/MEM
3. Type in Address of 1st Location (Here 2050)
4. Press Enter
5. Enter value of N (total count of numbers)
6. Press Enter
7. Enter a number
8. Press Enter
9. Repeat Step 7 and 8 N-1 times

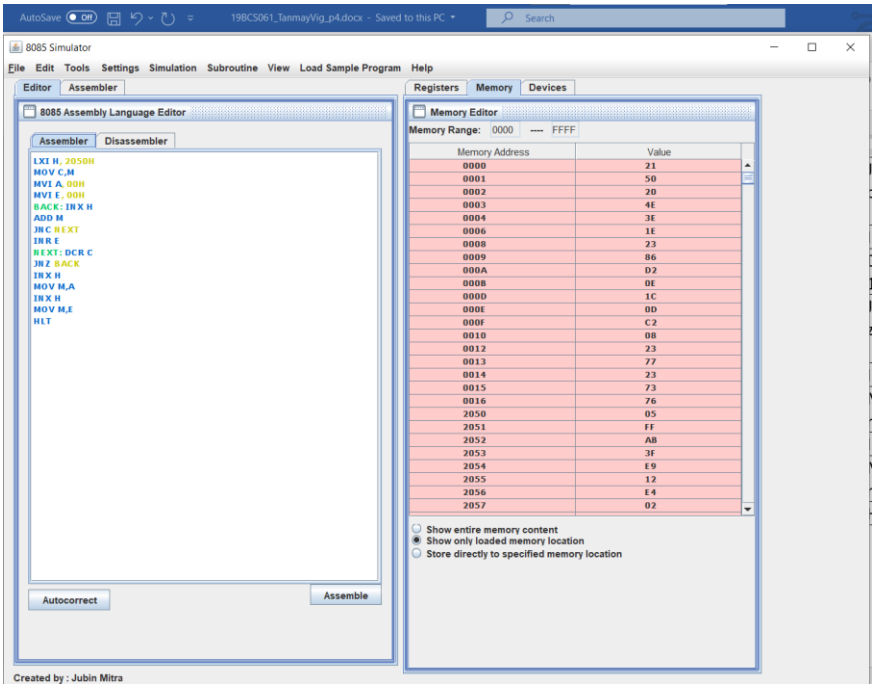
Step – 3: Executing the Program

1. Press Reset to Clear buffer
2. Press Go
3. Enter Starting address of program (Here 0000)
4. Press Execute

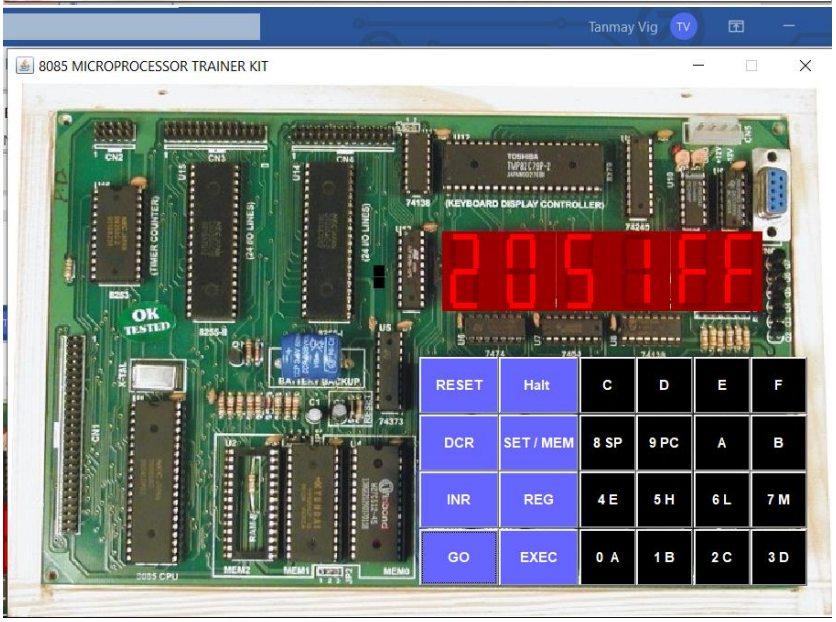
Step – 4: Checking the Output

1. Press Reset and clear the buffer
2. Press Go
3. Enter Result Location (Here 2050+ value of N+1)
4. You will get here the sum of N digits in Hexadecimal format

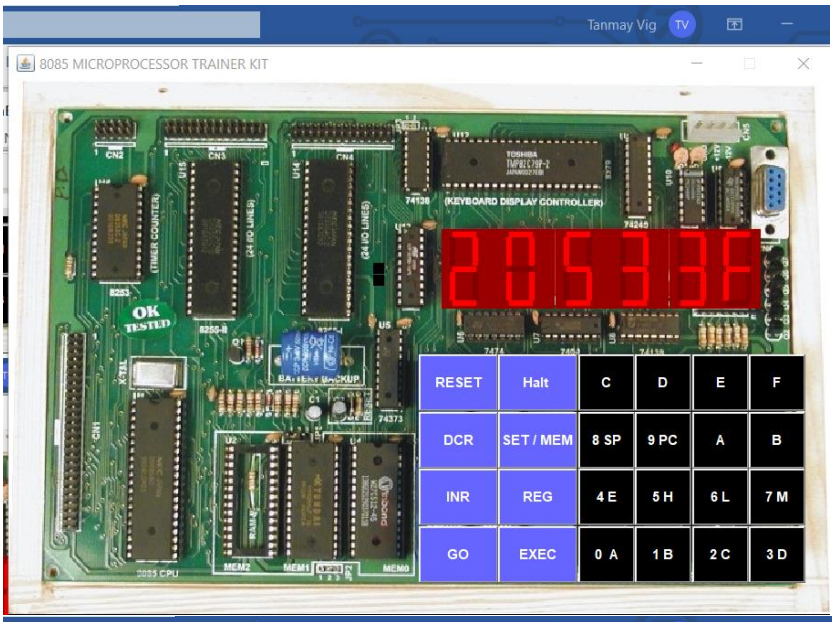
Output:

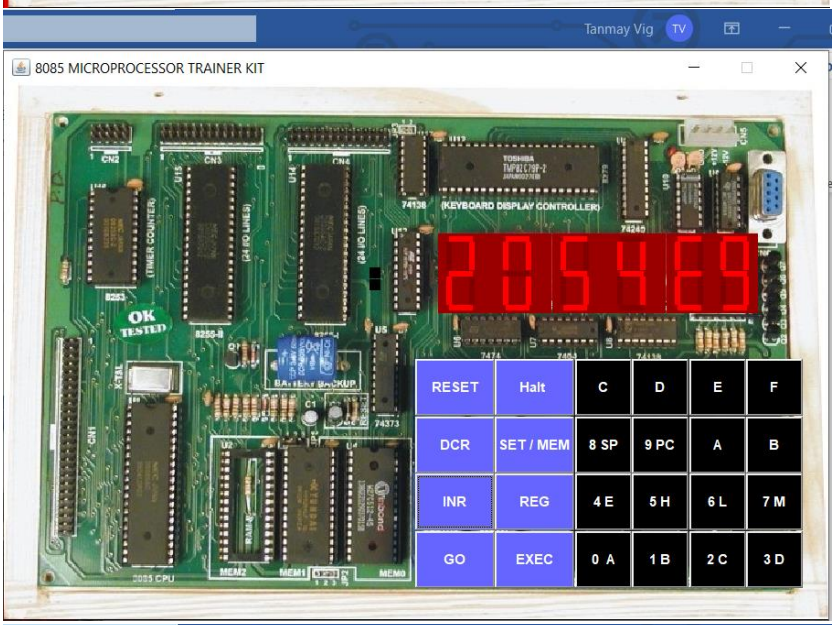



Tanmay Vig
8085 MICROPROCESSOR TRAINER KIT
(KEYBOARD DISPLAY CONTROLLER)
2050 05
RESET
Halt
C
D
E
F
DCR
SET / MEM
8 SP
9 PC
A
B
INR
REG
4 E
5 H
6 L
7 M
GO
EXEC
0 A
1 B
2 C
3 D

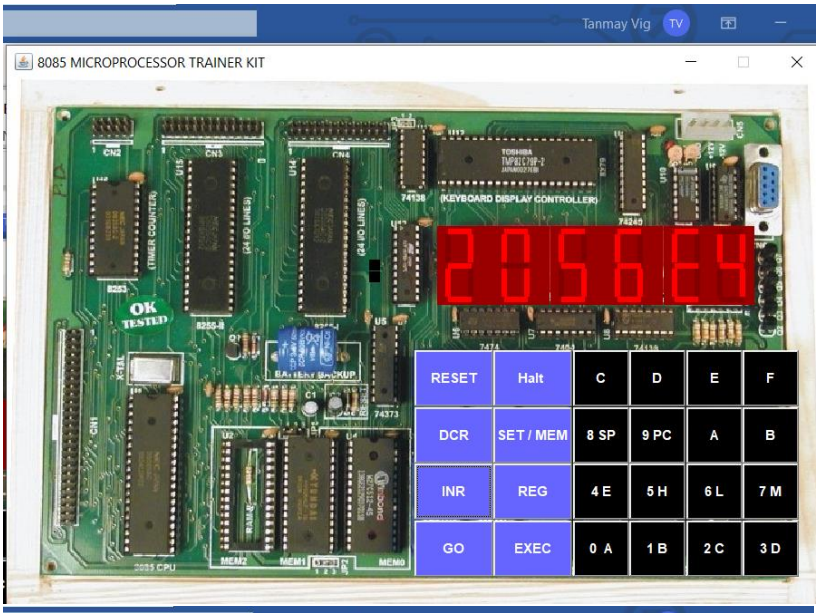

Tanmay Vig
8085 MICROPROCESSOR TRAINER KIT
(KEYBOARD DISPLAY CONTROLLER)
2051 FF
RESET
Halt
C
D
E
F
DCR
SET / MEM
8 SP
9 PC
A
B
INR
REG
4 E
5 H
6 L
7 M
GO
EXEC
0 A
1 B
2 C
3 D

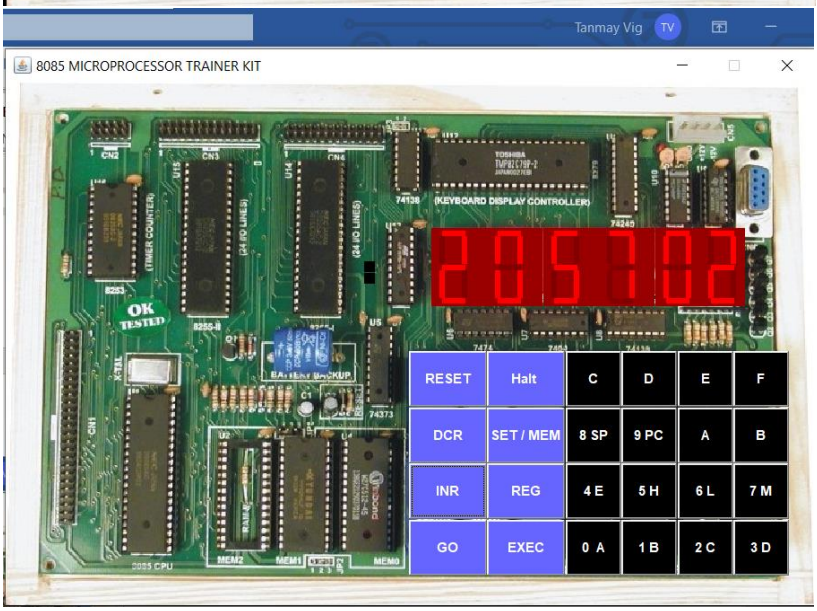

Tanmay Vig
8085 MICROPROCESSOR TRAINER KIT
(KEYBOARD DISPLAY CONTROLLER)
2052 A6
RESET
Halt
C
D
E
F
DCR
SET / MEM
8 SP
9 PC
A
B
INR
REG
4 E
5 H
6 L
7 M
GO
EXEC
0 A
1 B
2 C
3 D


Tanmay Vig
8085 MICROPROCESSOR TRAINER KIT
2053 3F
(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


Tanmay Vig
8085 MICROPROCESSOR TRAINER KIT
2054 E9
(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


Tanmay Vig
8085 MICROPROCESSOR TRAINER KIT
2055 42
(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


Tanmay Vig
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


Tanmay Vig
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