Name:Tanmay Vig

Roll Number: 19BCS061

Class: 3rd year (5th sem)

Experiment 3: Write a program to add N numbers stored at consecutive locations starting from 2050H and store their 8 bit sum at following address.

|  |  |  |  |
| --- | --- | --- | --- |
| **Memory Address** | **Assembly Code** | **Hex Code** | **Comments** |
| 0000 | LXI H, 2050H | 21 | Load data at location 2050 in HL rp. To get value of N |
| 0001 |  | 50 |
| 0002 |  | 20 |
| 0003 | MOV C,M | 4E | Move data (N) to C register |
| 0004 | MVI A,00H | 3E | Move 00 to A |
| 0005 |  | 00 |
| 0006 | LOOP: INX H | 23 | Increase value of HL rp |
| 0007 | ADD M | 86 | Add data in memory with Accumulator data and store in accumulator |
| 0008 | DCR C | 0D | Decrease value of C |
| 0009 | JNZ LOOP | C2 | Jump if value of C not zero to loop. |
| 000A |  | 06 |
| 000B |  | 00 |
| 000C | INX H | 23 | Increase value oh HL rp |
| 000D | MOV M,A | 77 | Move value in accumulator to memory location. |
| 000E | 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:**

Graphical user interface, application, table, Excel

Description automatically generated

A picture containing text, electronics, scoreboard

Description automatically generated

A picture containing text, electronics, scoreboard

Description automatically generated

A picture containing text, electronics, scoreboard

Description automatically generated

A picture containing text, electronics, scoreboard

Description automatically generated

A picture containing text, electronics, scoreboard

Description automatically generatedA picture containing text, electronics, scoreboard

Description automatically generatedA picture containing text, electronics, scoreboard

Description automatically generated