**Addition of two 8 bit numbers**

**Student Name:** Himanshu **UID:** 20BCS7944

**Branch:** CSE  **Section:** 20BCS802-A

**Semester:** 04 **Date of Performance:** 13/02/2022

**Subject Name:** Microprocessor and Interfacing Lab **Subject Code:** 20CSP-253

**1. Aim:**

Familiarization with basic assembly language programming.

**2. Task to be done:**

Addition of two 2 bit numbers.

**3. Simulator used:**

GNUSim8085 – 8085-Microprocessor Simulator.

**4. Algorithm:**

* Initialize the C register which contains 0.
* Load address H which contains 0026.
* Load number in register B which will contain an input number.
* Took input from input port in 01H.
* Then add B to A.
* If there is no carry then we will store A at address 0027H and store C at 0028H.
* If there is a carry then will increment in C and it will become 1 and after increment it will store in 0027H and 0028H.
* At last we will output the result in 05H and 06H( if there is a carry).

**5. Code:**

MVI C,00H

LXI H,0026H

MOV B, M

IN 01H

ADD B

JNC STORE

INR C

STORE: INX H

MOV M, A

INX H

MOV M, C

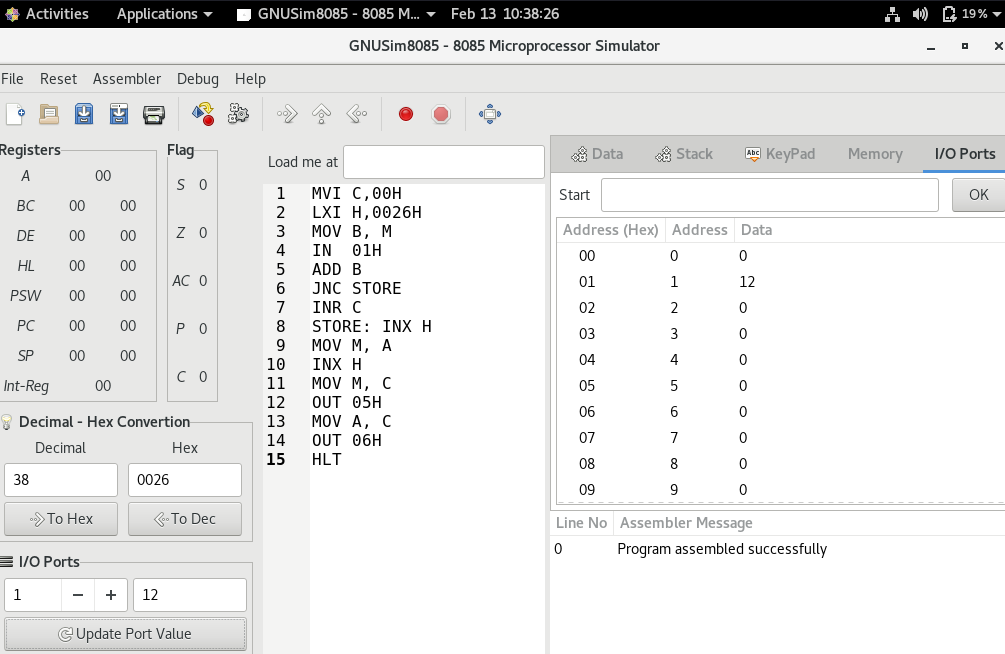
OUT 05H

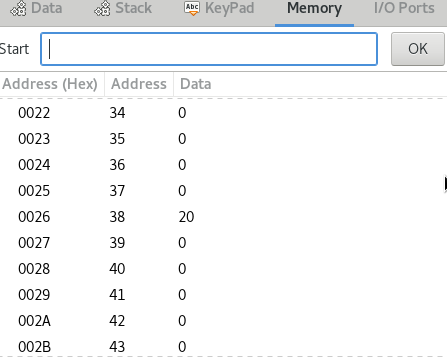
MOV A, C

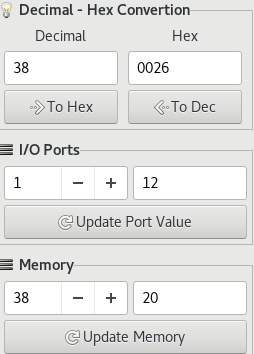
OUT 06H

HLT

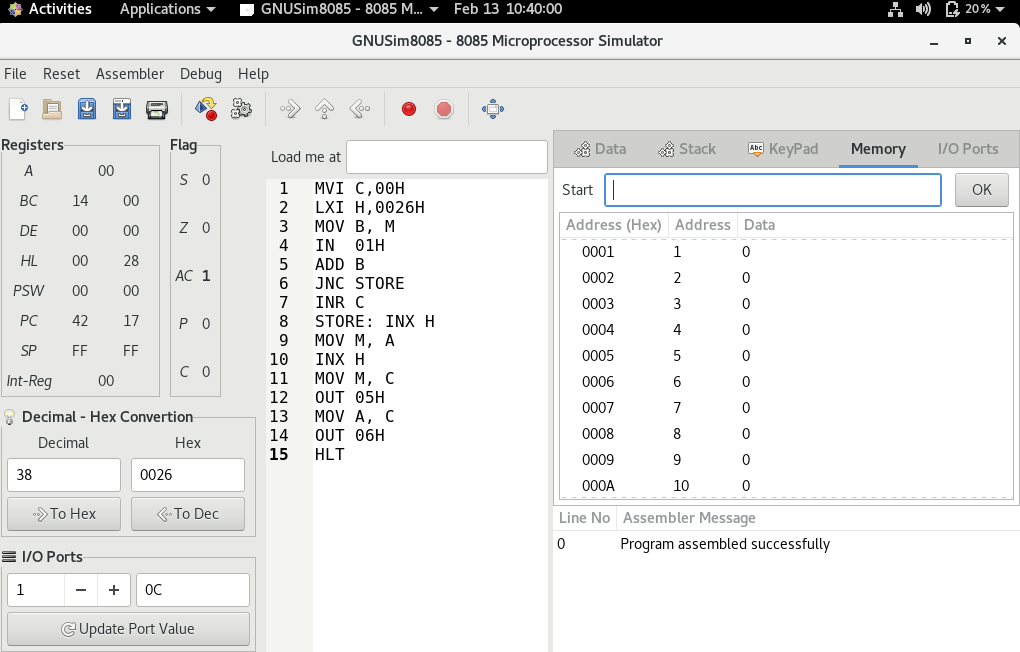
**6. Result/Output/Writing Summary:**

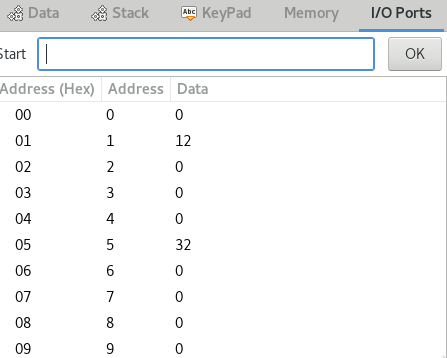
****

****

****

Save data in memory as 20 at 0026H which is 38 in decimal.

****

****

We got the output of addition of 20 and 12 on 05H is 32 as we can see from the above image.

**Learning outcomes (What I have learnt):**

**1.** Some basics of assembly language programming.

**2.** How to load registers and about memory addresses.

**3.** Working of microprocessor-8085 simulator.

**4.** Learnt about how to input value to memory and I/O port.

**5.** How to add two 8 bit numbers.

**Evaluation Grid (To be created as per the SOP and Assessment guidelines by the faculty):**

|  |  |  |  |
| --- | --- | --- | --- |
| Sr. No. | Parameters | Marks Obtained | Maximum Marks |
| 1. |  |  |  |
| 2. |  |  |  |
| 3. |  |  |  |
|  |  |  |  |