

6. Write an assembly language program for division of two 8-bit data A7 A6 A5 A4 A3 A2 A1 A0 and B7 B6 B5 B4 B3 B2 B1 B0 using 8085 processor.

AIM: To perform the division of two 8 bit numbers using 8085.

ALGORITHM:

- 1) Start the program by loading HL register pair with address of memory location.
- 2) Move the data to a register(B register).
- 3) Get the second data and load into Accumulator.
- 4) Compare the two numbers to check for carry.
- 5) Subtract the two numbers.
- 6) Increment the value of carry .
- 7) Check whether repeated subtraction is over and store the value of product and carry in memory location.
- 8) Terminate the program.

PROGRAM:

```
LXI H,1080
MOV B,M
MVI C,00
INX H
MOV A,M
loop: CMP B
JC skip
SUB B
INR C
JMP loop
skip: STA 1081;Remainder
MOV A,C
STA 1082;Quotient
HLT
```

GNUSim8085 - 8085 Microprocessor Simulator

File Reset Assembler Debug Help

Registers: A 02, BC 05 02, DE 00 00, HL 04 39, PSW 00 00, PC 42 19, SP FF FF, Int-Reg 00. Flag: S 1, Z 0, AC 0, P 0, C 1.

Decimal - Hex Conversion: Decimal 0, Hex 0. Buttons: To Hex, To Dec.

I/O Ports: 0, -, +, 00. Update Port Value.

Memory: 0, -, +, 00. Update Memory.

Load me at: []

```

1 LXI H,1080
2 MOV B,M
3 MVI C,00
4 INX H
5 MOV A,M
6 loop: CMP B
7 JC skip
8 SUB B
9 INR C
10 JMP loop
11 skip: STA 1081;Remainder
12 MOV A,C
13 STA 1082;Quotient
14 HLT

```

Start: 1080 OK

Address (Hex)	Address	Data
0438	1080	5
0439	1081	10
043A	1082	2
043B	1083	0
043C	1084	0
043D	1085	0
043E	1086	0
043F	1087	0
0440	1088	0
0441	1089	0

Line No	Assembler Message
0	Program assembled successfully

Simulator: Idle

OBSERVATION:

INPUT:

5(1080)

10(1081)

OUTPUT:

2(1082)

RESULT: Thus the program to divide two 8-bit numbers was executed.