

EXP NO: 4

8-BIT DIVISION

AIM: To write an assembly language program to implement 8-bit division using 8085 processor.

ALGORITHM:

- 1) Start the program by loading a register pair with the address of memory location.
- 2) Move the data to a register.
- 3) Get the second data and load it into the accumulator.
- 4) Subtract the two register contents.
- 5) Increment the value of the carry.
- 6) Check whether the repeated subtraction is over.
- 7) Store the value of quotient and the remainder in the memory location.
- 8) Halt.

PROGRAM:

```
LDA 8501
MOV B, A
LDA 8500
MVI C,00
LOOP: CMP B
JC LOOP1
SUB B
INR C
JMP LOOP
STA 8503
DCR C
MOV A, C
LOOP1: STA 8502
```

RST 1

INPUT:

Line No	Address (Hex)	Address	Data
2134	8500	3	
2135	8501	9	
2136	8502	3	
2137	8503	0	
2138	8504	0	
2139	8505	0	
213A	8506	0	
213B	8507	0	
213C	8508	0	
213D	8509	0	
213E	8510	0	
213F	8511	0	
2140	8512	0	
2141	8513	0	
2142	8514	0	

Line No Assembler Message

0 Program assembled successfully

OUTPUT:

GNUSim8085 - 8085 Microprocessor Simulator

File Reset Assembler Debug Help

Registers

Register	Value
A	03
BC	09 00
DE	00 00
HL	00 00
PSW	00 00
PC	42 1B
SP	FF FF
Int-Reg	00

Flag

Flag	Value
S	1
Z	0
AC	0
P	1
C	1

Decimal - Hex Conversion

Decimal	Hex
0	0

I/O Ports

Port	Value
0	00

Memory

Address (Hex)	Address	Data
2134	8500	3
2135	8501	9
2136	8502	3
2137	8503	0
2138	8504	0
2139	8505	0
213A	8506	0
213B	8507	0
213C	8508	0
213D	8509	0
213E	8510	0
213F	8511	0
2140	8512	0
2141	8513	0
2142	8514	0

Line No Assembler Message

0 Program assembled successfully

Simulator: Idle

RESULT: Thus the program was executed successfully using 8085 processor simulator.