

**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

LOOP1: STA 8502

MOV A, C

STA 8503

RST 1

**INPUT:**

Address (Hex)	Address	Data
2134	8500	5
2135	8501	25

## OUTPUT:

The screenshot displays the GNUSim8085 - 8085 Microprocessor Simulator interface. The main window is titled "GNUSim8085 - 8085 Microprocessor Simulator" and contains several panels:

- Registers:** Shows the state of the 8085 registers. A, BC, DE, HL, PSW, PC, and SP are listed with their decimal and hexadecimal values. Flags S, Z, AC, P, and C are also shown.
- Decimal - Hex Conversion:** A section for converting between decimal and hexadecimal values.
- I/O Ports:** A section for managing I/O ports, including a port value display and update button.
- Memory:** A section for managing memory, including a memory address display and update button.
- Assembly Code:** A central panel showing the assembly code being executed. The code includes instructions like `<Program title>`, `jmp start`, `start: nop`, `LDA 8501`, `MOV B, A`, `LDA 8500`, `MVI C, 00`, `LOOP: CMP B`, `JC LOOP1`, `SUB B`, `INR C`, `JMP LOOP`, `LOOP1: STA 8502`, `MOV A, C`, `STA 8503`, `RST 1`, and `hlt`.
- Memory Dump:** A table showing memory addresses (hex), data (hex), and data (decimal). The data is as follows:

Address (Hex)	Address	Data
2134	8500	5
2135	8501	25
2136	8502	5
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
- Assembler Message:** A panel showing the output of the assembler. It displays "Program assembled successfully".

The simulator status at the bottom indicates "Simulator: Idle". The system tray at the bottom shows the date and time as "16-10-2023 10:44".

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