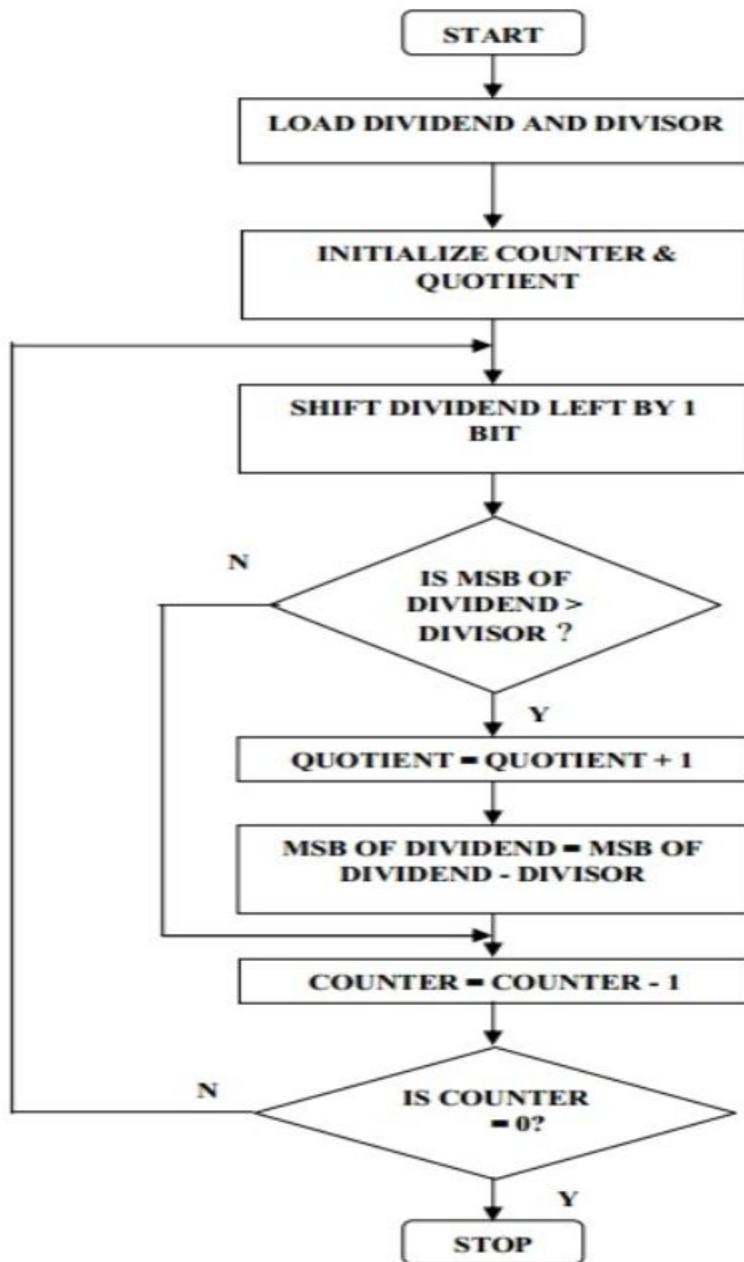# Experiment-3

Aim: Division of two 8 - bit numbers.

Algorithm:

Program:

```
; You may customize this and other start-up templates;
; The location of this template is c:\emu8086\inc\0_com_template.txt

org 100h

; add your code here
mov si, 1000h
mov al, [si]
mov bl, [si+2]
div bl
mov [si+4], al
mov [si+5], ah
hlt
```

Observation:

Random Access Memory

```
0100:1000    update    ⦿ table    ○ list

0100:1000  21 00 05 00 06 03 00 00-00 00 00 00 00 00 00 00   !..♠.♥..........
0100:1010  00 00 00 00 00 00 00 00-00 00 00 00 00 00 00 00   ................
0100:1020  00 00 00 00 00 00 00 00-00 00 00 00 00 00 00 00   ................
0100:1030  00 00 00 00 00 00 00 00-00 00 00 00 00 00 00 00   ................
0100:1040  00 00 00 00 00 00 00 00-00 00 00 00 00 00 00 00   ................
0100:1050  00 00 00 00 00 00 00 00-00 00 00 00 00 00 00 00   ................
0100:1060  00 00 00 00 00 00 00 00-00 00 00 00 00 00 00 00   ................
0100:1070  00 00 00 00 00 00 00 00-00 00 00 00 00 00 00 00
```

emulator: noname.bin_

file   math   debug   view   external   virtual devices   virtual drive   help

Load   reload   step back   single step   run   step delay ms: 0

registers

```
        H   L
AX     03  06         0100:0010              0100:0010
BX     00  05
CX     00  00    01000: BE 190 ╡      MOV SI, 01000h
DX     00  00    01001: 00 000 NULL   MOV AL, [SI]
                 01002: 10 016 ►      MOV BL, [SI] + 02h
CS     0100      01003: 8A 138 è      DIV BL
IP     0010      01004: 04 004 ♦      MOV [SI] + 04h, AL
SS     0100      01005: 8A 138 è      MOV [SI] + 05h, AH
                 01006: 5C 092 \      HLT
SP     FFFE      01007: 02 002 ☻      NOP
BP     0000      01008: F6 246 ÷      NOP
SI     1000      01009: F3 243 ≤      NOP
DI     0000      0100A: 88 136 ê      NOP
                 0100B: 44 068 D      NOP
DS     0100      0100C: 04 004 ♦      NOP
ES     0100      0100D: 88 136 ê      NOP
                 0100E: 64 100 d      NOP
                 0100F: 05 005 ♣      NOP
                 01010: F4 244 ⌐      NOP
                 01011: 90 144 É      NOP
                 01012: 90 144 É      NOP
                 01013: 90 144 É      NOP
                 01014: 90 144 É      NOP
                 01015: 90 144 É      ...
```

screen   source   reset   aux   vars   debug   stack   flags

original source co...

```
01  mov si, 1000h
02  mov al, [si]
03  mov bl, [si+2]
04  div bl
05  mov [si+4], al
06  mov [si+5], ah
07  hlt
08
09
10
```

(Arkajyoti Chakraborty 2k19/EP/022)