



VIT[®]
Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

Experiment 12:
Calculating the GCD and LCM of Two numbers

Programme	:	BTech. CSE Core	Semester	:	Win 2021-22
Course	:	Microprocessor and Interfacing	Code	:	CSE2006
Faculty	:	Dr. Florence Gnana Poovathy J	Slot	:	L15+L16
Name	:	Hariket Sukesh Kumar Sheth	Register No.	:	20BCE1975

Date: 23-03-2022

Exp. 12

Calculating GCD and
LCM of two numbers**VIT**
Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

Basic Programming with 8087

Aim: To Calculating the Greatest Common Divisor of 2 Number

Tool Used: Assembler – MASM611

Algorithm:

Step 1: First of all, mount the c drive using the command: **mount c c:\masm611\bin**

Step 2: After pressing **enter**, type **c:** and press enter.

Step 3: Now give a command, **<filename>.asm** for writing/editing the code and the write the code.

Step 4: Program:

```
START : MOV SI,1500H
        MOV AX, 0006H
        MOV BX,0008H
LOOP2:  CMP AX,BX
        JE HALT
        JA LOOP1
        XCHG AX,BX
LOOP1:  SUB AX,BX
        JMP LOOP2
HALT:   MOV[SI],AX
END:    HLT
```

Sample Input:

AX -> 0006H

BX -> 0008H

Sample Output:

AX-> 0002H



Result: The Greatest Common Divisor of 6 and 8 is 2.

Sample Input	Sample Output
AX -> 0006H BX -> 0008H	AX-> 0002H

Aim: To Calculating the Least Common Multiple (LCM) of any 2 Number

Tool Used:

Assembler - MASM 611

Program:

```
START : MOV SI,1500H
        MOV AX, 0012H
        MOV BX,0008H
LOOP2:  CMP AX,BX
        JE HALT
        JA LOOP1
        XCHG AX,BX
LOOP1:  SUB AX,BX
        JMP LOOP2
HALT:   MOV[SI],AX
        MOV AX,0012H
        MOV BX,0008H
```

```
MUL BX
MOV BL,[SI]
DIV BL
MOV [SI+02],AX
END: HLT
```

Sample Input:

AX -> 0012H

BX -> 0008H

Sample Output:

AX -> 0048H

Sample Input	Sample Output
AX -> 0012H BX -> 0008H	AX-> 0048H

Snapshot of the Output:

Result: The Least Common Multiple (LCM) of 12 and 8 is 48.