**Assembly language Lab**

**Submission Date: 04.12.2020**

Submitted by:

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181-15-11192

**1. Factorial of any number**

TITLE FACTORIAL NUMBER

.MODEL SMALL

.STACK 10H

.CODE

MAIN PROC

MOV BH,0

MOV BL,10D

INPUT:

MOV AH,1

INT 21H

CMP AL,13D

JNE NUMBER

AND CX,0

MOV CL,BH

DEC CX

AND AX,0

MOV AL,BH

JMP FACT

NUMBER:

SUB AL,30H

MOV CL,AL

MOV AL,BH

MUL BL

ADD AL,CL

MOV BH,AL

JMP INPUT

FACT:

MUL CX

LOOP FACT

AND DX,0

MOV CX,10D

MOV BX,0000H

STORE:

DIV CX

MOV [0000H+BX],DX

ADD BX,2H

MOV DX,0

CMP AX,0

JNE STORE

MOV AH,2

MOV DL,0DH

INT 21H

MOV DL,0AH

INT 21H

PRINT:

SUB BX,2H

MOV DL,[0000H+BX]

ADD DL,30H

INT 21H

CMP BX,0

JNE PRINT

MAIN ENDP

END MAIN

**2. Equation: 3A + B – 2C**

INCLUDE 'EMU8086.INC'

TITLE EQUATION\_SOLVING 3A+B-2C

.MODEL SMALL

.STACK 100H

.DATA

A DB ?

B DB ?

C DB ?

CNST1 DB 3

CNST2 DB 2

.CODE

MAIN PROC

MOV AX, @DATA

MOV DS, AX

PRINT "VALUE OF A: "

MOV AH, 01

INT 21H

SUB AL, 48

MUL CNST1

MOV A, AL

PRINTN

PRINT "VALUE OF B: "

MOV AH, 01

INT 21H

SUB AL, 48

ADD AL, A

MOV B, AL

PRINTN

PRINT "VALUE OF C: "

MOV AH, 01

INT 21H

SUB AL, 48

MUL CNST2

SUB AL, B

MOV C, AL

ADD C, 48

PRINTN

PRINT "RESULT: "

MOV AH, 02

MOV DL, C

INT 21H

EXIT:

MOV AH, 4CH

INT 21H

MAIN ENDP

END MAIN

**3. Addition of last 4 digit of ID and Date: 11182020**

INCLUDE 'EMU8086.INC'

TITLE EQUATION\_SOLVING 3A+B-2C

.MODEL SMALL

.STACK 100H

.DATA

A DB ?

B DB ?

C DB ?

CNST1 DB 3

CNST2 DB 2

.CODE

MAIN PROC

MOV AX, @DATA

MOV DS, AX

PRINT "VALUE OF A: "

MOV AH, 01

INT 21H

SUB AL, 48

MUL CNST1

MOV A, AL

PRINTN

PRINT "VALUE OF B: "

MOV AH, 01

INT 21H

SUB AL, 48

ADD AL, A

MOV B, AL

PRINTN

PRINT "VALUE OF C: "

MOV AH, 01

INT 21H

SUB AL, 48

MUL CNST2

SUB AL, B

MOV C, AL

ADD C, 48

PRINTN

PRINT "RESULT: "

MOV AH, 02

MOV DL, C

INT 21H

MAIN ENDP

END MAIN