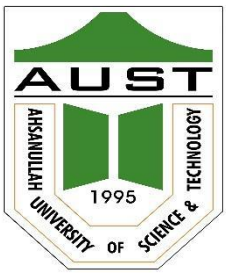

Ahsanullah University of Science & Technology

Department of Computer Science & Engineering

Lab Final Examination, Fall - 2019

Course No: **CSE2214**

Course Title: **Assembly Language Programming Sessional**

Date of Examination: 16.09.2020

Submitted By-

Group : **A1**

Name : **Mustofa Ahmed**

Id : **18.01.04.005**

Section : **A**

Question No: 01
Question:
Write an assembly code to perform the following:
Read a character. If it's "y" or "Y", display it; otherwise, terminate the program.

Answer:

```
.MODEL SMALL
.STACK 200H
.DATA

MSG1 DB 0DH,0AH,'ENTER A CHARACTER : $'

.CODE

MAIN PROC

   MOV AX,@DATA
   MOV DS,AX

   MOV AH,9
   LEA DX,MSG1
   INT 21H

   MOV AH,1
   INT 21H

   CALL NEWLINE

   CMP AL,'Y'
   JE PRINT

   CMP AL,'y'
```

```
JE PRINT

JMP TERMINATE

PRINT:
MOV AH,2
MOV DL,AL
INT 21H


TERMINATE:


MOV AX,4C00H
INT 21H

MAIN ENDP

PROC NEWLINE

PUSH AX
PUSH DX

MOV AH,2
MOV DL,0DH
INT 21H

MOV DL,0AH
INT 21H

POP DX
POP AX

RET
```

```
    NEWLINE ENDP

END MAIN
```

Question No: 02
Question:
Write an assembly code to calculate the sum of the following series. Put the sum in DX.
100 + 90 + 80 + … + 10

Answer:

```
.MODEL SMALL
.STACK 200H
.DATA

MSG1 DB 0DH,0AH,'THE SUM OF THE SERIES IS :  $'

.CODE


MAIN PROC

    MOV AX,@DATA
    MOV DS,AX

    MOV DX,0
    MOV CX,10
    MOV AX,100

    LOOPER:
    ADD DX,AX
    SUB AX,10
```

```
LOOP LOOPER

CALL NEWLINE


PUSH DX

MOV AH,9
LEA DX,MSG1
INT 21H

POP DX

MOV AX,DX
CALL OUTDEC


MOV AX,4C00H
INT 21H

MAIN ENDP

PROC NEWLINE

PUSH AX
PUSH DX

MOV AH,2
MOV DL,0DH
INT 21H

MOV DL,0AH
INT 21H
```

```
    POP DX
    POP AX

    RET
    NEWLINE ENDP


    OUTDEC PROC

        END_IF1:
        XOR CX,CX
        MOV BX,10D

        REPEAT1:
        XOR DX,DX
        DIV BX
        PUSH DX
        INC CX
        CMP AX,0
        JNE REPEAT1

        MOV AH,2
        PRINT_LOOP:
        POP DX
        OR DL,30H
        INT 21H
        LOOP PRINT_LOOP

        RET
OUTDEC ENDP

END MAIN
```

Question No: 03
Question:
Write an assembly code to double the value of a byte variable.

Answer:

```
.MODEL SMALL
.STACK 200H
.DATA

MSG1 DB 0DH,0AH,'THE DOUBLED VARIABLE VALUE IS : $'
MSG2 DB 0DH,0AH,'THE VARIABLE VALUE IS : $'
MYVARIABLE DB ?

.CODE

MAIN PROC

  MOV AX,@DATA
  MOV DS,AX

  MOV MYVARIABLE,17

  MOV AH,9
  LEA DX,MSG2
  INT 21H

  MOV AL,MYVARIABLE
  XOR AH,AH
  CALL OUTDEC

  ADD AL,MYVARIABLE
```

```
XOR AH,AH

PUSH AX

MOV AH,9
LEA DX,MSG1
INT 21H

POP AX

CALL OUTDEC

MOV AX,4C00H
INT 21H

MAIN ENDP

OUTDEC PROC
    PUSH AX
    PUSH DX

    END_IF1:
    XOR CX,CX
    MOV BX,10D

    REPEAT1:
    XOR DX,DX
    DIV BX
    PUSH DX
    INC CX
    CMP AX,0
    JNE REPEAT1

    MOV AH,2
    PRINT_LOOP:
    POP DX
    OR DL,30H
    INT 21H
    LOOP PRINT_LOOP
```

```
        POP DX
        POP AX

        RET
OUTDEC ENDP

END MAIN
```