Assignment -01

Microprocessor and Interfacing Sessional (CSE 3812)

Q1: The user will input 3 numbers (single digit) and the program will output the second highest number. The sample input and output is given below:

Sample Input	Sample Output
9, 5, 8	8
9, 9, 6	6
9, 9, 9	All the numbers are equal
9, 6, 6	6

Q2: Write an assembly language code to derive the final value of the number sequence: -1+2-3+4-5+…..N. (Using Loop). Take the input value of N (in between 2 to 9) as a single ASCII character and then adjust it to the actual decimal value in your program. Finally, store the output in a variable named RESULT. You do not need to display the output in the console

Q3: First of all we will input a mark of the subject from the candidate and according to the following condition we will calculate the grade.

a. If marks <50 then Grade is F

b. if marks >=50 and marks <60 then Grade is D

c. if marks >=60 and marks <70 then Grade is C

d. if marks >=70 and marks <80 then Grade is B

e. if marks >=80 and marks <90 then Grade is A

f. if marks >=90 then Grade is A+

For taking input of multi-digit from the user, you may use the following code. First, define a variable named 'N' in the data segment.

```
; fast BX = 0
XOR BX, BX

INPUT_LOOP:
; char input
MOV AH, 1
INT 21H
; if \n\r, stop taking input
CMP AL, CR
JE END_INPUT_LOOP
CMP AL, LF
JE END_INPUT_LOOP
```

Sample Input: 80

```
; fast char to digit
; also clears AH
AND AX, 000FH
; save AX
MOV CX, AX

; BX = BX * 10 + AX
MOV AX, 10
MUL BX
ADD AX, CX
MOV BX, AX
JMP INPUT_LOOP

END_INPUT_LOOP:
MOV N, BX
```

Sample Input: 45

Ouput: Grade: A	**Ouput:** Grade: F

Submission Deadline: 23 November 2024 (11:59 pm)

* While you are encouraged to talk to your peers and search relevant resources online, under no circumstances should you copy code from any source. If found out, you will receive zero marks.