COAL -Lab Home Work- 01

(Deadline 18-Sep-2022)

RULES FOR MARKING

It should be clear that your assignment would not get any credit if:

- **The assignment is submitted after the due date.**
- **The submitted assignment does not open or file is corrupt.**
- **Zero marks will be given if the submitted solution is copied from any other student or from the internet.**

Q1. Write an assembly language program (NASM) to find second largest and second smallest digit of your Roll No and store it in the memory.

- Store all the digits of Roll No in the memory.
- Use CMP to check digit is greater or not and move to next.
- Store the largest digit in memory.

Q2. Write an assembly language program (NASM) to sort your roll no in descending order and store it in the memory.

- Store all the digits of Roll No in the memory.
- Use CMP to check digit is greater or not and move to next.
- Make use of loop etc.

Note: Make it sure to use your own Roll No, otherwise zero marks will be awarded.

Submission details:

Following are required in a single MS-Word document.

- **Assembly language program.**
- **Screenshot of AFD debugger at the start of program.**
- **Screenshot of AFD debugger showing the final values.**

Hint: for more detail see Coal Handouts Page 35

Of Computer & Emerging Sciences Peshawar Campus

JC JB JNAE	Jump if carry Jump if below Jump if not above or equal	CF = 1	This jump is taken if the last arithmetic operation generated a carry or required a borrow. After a CMP it is taken if the unsigned destination is smaller than the unsigned source.
JNC JNB JAE	Jump if not carry Jump if not below Jump if above or equal	CF = 0	This jump is taken if the last arithmetic operation did not
			generated a carry or required a borrow. After a CMP it is taken if the unsigned destination is larger or equal to the unsigned source.
JE JZ	Jump if equal Jump if zero	ZF = 1	This jump is taken if the last arithmetic operation produced a zero in its destination. After a CMP it is taken if both operands were equal.
JNE JNZ	Jump if not equal Jump if not zero	ZF = 0	This jump is taken if the last arithmetic operation did not produce a zero in its destination. After a CMP it is taken if both operands were different.

Best of luck :)