Homework n

Amir Mirzaei

Your task is to read a positive integer from the standard input and decide whether its digits (from left to right) are in ascending order, descending order, both (all digits are equal) or neither. Print “Ascending”, “Descending”, “Both” or “Neither” to the standard output. All of the input numbers are positive.

90% of the score is given for deciding whether digits are ascending or not, in which case you only print “Ascending” or “Not”.

Your code **must** comply with the following rules:

- You can only use the EAX, EBX, ECX, EDX, ESI and EDI registers.
- You are not allowed to use memory and data segments except for storing the output strings (“Ascending”, “Descending”, etc.).
- You must use the **read_int** and **print_string** functions (from the textbook) for I/O.
- You can only use the commands you have learned so far in the class. You cannot use MUL, IMUL, DIV, IDIV, etc.
- DO NOT PRINT EXTRA OUPUT. Results are checked by Script.
- PRINT A SINGLE NEWLINE CHARACTER AT THE END OF YOUR OUTPUT. You may do this by storing the output strings like

```
asc_message:  db "Ascending", 10, 0
```

Remember that your code will be checked for similarity. In the case of cheating the student will receive a **negative** point. It is your responsibility to protect your code.
Please upload only the “.asm” file on **courses.kntu.ac.ir**.

Example:

Input 1:
359

Output 1:
Ascending

Input 2:
4444

Output 2:
Both

Input 3:
739

Output 3:
Neither

Input 4:
741

Output 4:
Descending

If you choose to just check for the ascending order (and receive 90% of the score), your output must look like this:

Input 1:
359

Output 1:
Ascending

Input 2:
4444

Output 2:
Ascending

Input 3:
739

Output 3:
Not

Input 4:
741

Output 4:
Not