CS1133, Spr 2018, HW 10 (Lect 23, Pts=100)

Due April 24, 2018 (before 11:00 pm)

Problem 1 [100 pts]

When creating a password, sometimes one uses too many consecutive letters or digits that are in ascending order.

For example, the password `wY01xKLM2` has three consecutive letter in ascending order (`KLM`). It also has two consecutive digits (`01`) in ascending order too.

Having a long substring of consecutive letters or digits in ascending order makes the password easier to be cracked.

Write a function that determines if a given password has at least k consecutive letters or digits in ascending order. The function should also identifies the location of the problematic segment. If the password has less than the maximum number of consecutive uppercase letters or digits, the returned logical value should be false, and the location is meaningless.

For the above password, and if the maximum allowed consecutive letters or digits in ascending ordered is three, then the function should set and return a logical variable having the value of true, and a variable for the location of the problematic segment having the value of 6.

Write a script program to input a string consisting only of uppercase or digits from the user. Data validation is not needed. Then with the use the above function, determine whether the password is acceptable in the sense described here.

Here are three examples of the displayed results:

```
Enter a string of uppercase letters and digits: XKLM8MWQ45678ADV
Has at least 4 consecutive letters or digits.
Starting at location: 9

Enter a string of uppercase letters and digits: X012TKLMWQ94ADV
Less than 4 consecutive letters or digits!
The value of the second output has no meaning.

Enter a string of uppercase letters and digits: X012TKLMWQ94ADV
Has at least 3 consecutive letters or digits.
Starting at location: 2
```