1. (100 pts) Write a program to find the largest palindrome in a string. A palindrome is a sequence that reads the same backward as forward. racecar, eve, kayak are some examples.

For this assignment implement the following function

```c
int palindromelength(char *str, int i, int j)
```

This function takes a string str and two points i and j and determines whether the string from i to j is a palindrome. If it is a palindrome, it returns the length of the palindrome and if it is not a palindrome, it returns -1.

Consider the following string as an example

```
ABCBAHELLOHOWRACECAREAUYIAMAIĐOINEVERODDOREVENNGGOOD
```

It has many palindromes in it including ABCBA, RACECAR, ARA, IAMAI. Largest palindrome is NEVERODDOREVEN since it has the most characters in it.

Sample execution is given below

```
Enter a string
ABCBACDCBAAB
Largest palindrome is ABCBA
```

Submit your program electronically using the blackboard system

The program you submit should be your own work. Cheating will be reported to office of academic integrity. Both the copier and copiee will be held responsible.