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

   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

   ABCBAHELLOHOWRACECARAREYOUIAMAIĐOINEVERODDOREVENNGGOOD

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.