ESS101 : Programming 1 (C Programming)
LAB - 3

Due: 26th August, 2019 @ 17:00

Problem 1: (Intersecting Circles) Given two circles with centers at (x_1, y_1) and (x_2,y_2) and having radius r_1 and r_2 respectively, are considered to be intersecting if they have a common area. Even if the two circles touch at a point they are considered to be intersecting.
Write a (C) program to input integer values of (x_1, y_1, x_2, y_2, r_1, r_2), output "YES" if the two circles intersect, otherwise output "NO" (without the quotes). *Note:* If one of the radius values is negative, output should be "Invalid input". Radius value of 0 is acceptable.

Sample Input 1: 1 4 5 1 1 1
Output 1: NO
Sample Input 2: 13 1 1 6 7 8
Output 2: YES

Problem 2: Write a (C) program that inputs a string S consisting of lower-case English alphabets and an integer L, find the number of **distinct** sub-strings of length L (> 0) of the given string S. *Note:* If $L > |S|$ (length of S), then output should be 0.

Sample Input 1: abcbab 2
Output 1: 4
Sample Input 2: ababa 2
Output 2: 2