Python Assignment

1.Write a function that takes a string and returns the length of the longest substring without repeating characters.

- **Input:** A string s.
- **Output:** An integer representing the length of the longest substring without repeating characters.

2. The n-queens puzzle is the problem of placing n queens on an n × n chessboard such that no two queens attack each other. The task is to return the number of distinct solutions to the n-queens puzzle.

- **Input:** An integer n representing the size of the chessboard.
- **Output:** An integer representing the number of distinct solutions.

HINT :Use backtracking to place queens on the board while ensuring no two queens can attack each other. Keep track of the columns, diagonals, and rows to ensure no conflicts.

3. Write a function to determine if two strings are anagrams of each other. Two strings are anagrams if they contain the same characters with the same frequencies but in any order.

- **Input:** Two strings s and t.
- **Output:** A boolean value (True or False) indicating if the strings are anagrams.

Hint: Use a counter or hash map to count the frequency of characters in both strings and compare them.