Lab № 7

CSCI B505 Applied Algorithms 10/05/2022

Instructions

1. Please write the code for the problems in python language in Jupyter notebook
2. The code should readable with variables named meaningfully
3. Plagiarism is unacceptable and we have ways to find it. So do not do it.
4. Follow the instructions and define the methods/functions as given in the problem statement.
5. Write test cases wherever required so that they cover all scenarios.
6. Please do not use in-built python functions for solving the problem.

Problem 1

Given two strings, string1 and string2, and the following operations on string1. Determine the smallest number of edits (operations) necessary to convert 'string1' to 'string2'.
You have the following three operations permitted on a string:

1. Insert a character
2. Delete a character
3. Replace a character

Note: Assume string1 and string2 consist of lowercase English letters

```
Example 1:
Input: word1 = "dussehra", word2 = "dsusehar"
Output: 4

Example 2:
Input: word1 = "cheeks", word2 = "checks"
Output: 1

Example 3:
Input: word1 = "ihtiha", word2 = "ihtas"
Output: 3
```

Write the code following below function signature.

```
1
2 def edit_distance(string1, string2):
3     '''Your code
4         comes here'''
5
6     return {minimum number of operations required to convert string1 ↩
        to string2}
```