Logo

STUDENT REPORT

DETAILS

Name

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Roll Number

KUB23CSE085

EXPERIMENT

Title

MAGIC STRING

Description

Eva has a string S containing lowercase English letters. She wants to transform this string into a Magic String, where all the characters in the string are the same. To do so, she can replace any letter in the string with another letter present in that string.

Your task is to help Eva find and return an integer value, representing the minimum number of steps required to form a Magic String. Return 0, if S is already a Magic String.

Input Specification:

input1: A string S, containing lowercase English letters.

Output Specification:

Return an integer value, representing the minimum number of steps required to form a Magic String. Return 0, if S is already a Magic String.

Sample Input:

aaabbbccdddd

Sample Output:

8

Source Code:

```
from collections import Counter

def min_steps_to_magic_string(S):
    if len(S) == 0:  # Edge case for empty string
        return 0

    # Count the frequency of each character
    frequency = Counter(S)

    # Find the maximum frequency
    max_freq = max(frequency.values())

    # Calculate the minimum steps required
    min_steps = len(S) - max_freq

    return min_steps

# Example usage
S = "aaabbbccdddd"
result = min_steps_to_magic_string(S)
print(result)  # Output: 8
```

RESULT

1 / 5 Test Cases Passed | 20 %