DP-S020 (E050)

Solved Challenges **0/1**

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Palindromic Partition

ID:11161 **Solved By 386 Users**

The program must accept a string **S** as the input. The program must print the minimum number of cuts required so that all the substring values in S are palindromes as the output.

Boundary Condition(s):
1 <= Length of S <= 1000

Input Format:
The first line contains the string S.

Output Format:
The first line contains the minimum number of cuts required so that all the substring values in S are palindromes.

Example Input/Output 1:
Input:
evening

Output:
2

Explanation:
Here the minimum number of cuts required is **2**.
After two cuts in the string "**evening**", the palindromic substring values are "**eve**", "**nin**" and "**g**".

Example Input/Output 2:
Input:
rotator

Output:
0

Example Input/Output 3:
Input:
waitingnight

Output:
7

Max Execution Time Limit: 500 millisecs

Ambiance

Python3 (3.x)

Reset

```
def calcSplits(S,start,end,palin,splits):

    if(palin[start][end]):
        return 0

    if(splits[start][end]!=None):
        return splits[start][end]

    minSplits=len(S)
    for index in range(start,end):
        currSplits =  (1+calcSplits(S,start,index,palin,splits
                    +calcSplits(S,index+1,end,palin,splits))
        if(currSplits<minSplits):
            minSplits = currSplits

    splits[start][end] = minSplits
    return minSplits


S = input().strip()


if(S==S[::-1]):
    print(0)
    exit()

N = len(S)
palin = [[False for i in range(N)]for j in range(N)]

for index in range(N):
    palin[index][index] = True

for index in range(N-1):
    if(S[index] == S[index+1]):
        palin[index][index+1] = True

for l in range(3,N+1):
    for index in range(N-l+1):
        if((S[index]==S[index+l-1]) and
                            palin[index+1][index+l-2]):
            palin[index][index+l-1] = True

splits = [[None for i in range(N)] for j in range(N)]
print(calcSplits(S,0,N-1,palin,splits))
```

Custom test case has passed.

SUCCESS

You have executed a custom test case. Kindly un-check "Run with a custom test case (Input/Output)" to execute challenge test cases.

Save Run

☑ Run with a custom test case (Input/Output)

Your input

```
evening
```

Your expected output

```
2
```