Started on	Thursday, 15 May 2025, 11:33 AM
State	Finished
Completed on	Thursday, 15 May 2025, 11:38 AM
Time taken	4 mins 35 secs
Grade	**80.00** out of 100.00

Question **1**

Correct

Mark 20.00 out of 20.00

LONGEST COMMON SUBSTRING PROBLEM

The longest common substring problem is the problem of finding the longest string (or strings) that is a substring (or are substrings) of two strings.

Answer: (penalty regime: 0 %)

```
def LCS(X, Y, m, n):
    maxLength = 0
    endingIndex = m
    lookup = [[0 for x in range(n + 1)] for y in range(m + 1)]
    for i in range(1, m + 1):
        for j in range(1, n + 1):
            if X[i - 1] == Y[j - 1]:
                lookup[i][j] = lookup[i - 1][j - 1] + 1
                if lookup[i][j] > maxLength:
                    maxLength = lookup[i][j]
                    endingIndex = i
    return X[endingIndex - maxLength: endingIndex]

X = input()
Y = input()
m = len(X)
n = len(Y)
print('The longest common substring is', LCS(X, Y, m, n))


```

	Input	Expected	Got	
✔	ABC BABA	The longest common substring is AB	The longest common substring is AB	✔
✔	abcdxyz xyzabcd	The longest common substring is abcd	The longest common substring is abcd	✔

Passed all tests! ✔

Correct

Marks for this submission: 20.00/20.00.

Question **2**

Correct

Mark 20.00 out of 20.00

Create a python program to find the Edit distance between two strings using dynamic programming.

For example:

Input	Result
Cats Rats	No. of Operations required : 1

Answer: (penalty regime: 0 %)

Reset answer

```
def ed(str1, str2):
    if str1=="":
        return len(str2)
    if str2=="":
        return len(str1)
    if str1[-1]==str2[-1]:
        cost=0
    else:
        cost=1
    return min([ ed(str1[:-1],str2)+1,ed(str1,str2[:-1])+1,ed(str1[:-1],str2[:-1])+cost])
str1=input()
str2=input()
print("No. of Operations required :",ed(str1,str2))


```

	Input	Expected	Got	
✔	Cats Rats	No. of Operations required : 1	No. of Operations required : 1	✔
✔	Saturday Sunday	No. of Operations required : 3	No. of Operations required : 3	✔

Passed all tests! ✔

Correct

Marks for this submission: 20.00/20.00.

Question **3**

Correct

Mark 20.00 out of 20.00

LONGEST PALINDROMIC SUBSEQUENCE

Given a sequence, find the length of the longest palindromic subsequence in it.

For example:

Input	Result
ABBDCACB	The length of the LPS is 5

Answer: (penalty regime: 0 %)

```
def lps(s1,s2):
    m=len(s1)
    n=len(s2)
    dp=[[0]* (n+1) for j in range(m+1)]
    for i in range(n+1):
        for j in range(m+1):
            if i==0 or j==0:
                dp[i][j]=0
            elif s1[i-1]==s2[j-1]:
                dp[i][j]=1+dp[i-1][j-1]
            else:
                dp[i][j]=max(dp[i][j-1],dp[i-1][j])
    return dp[-1][-1]
s1=input()
s2=s1[::-1]
print("The length of the LPS is",lps(s1,s2))

```

	Input	Expected	Got	
✔	ABBDCACB	The length of the LPS is 5	The length of the LPS is 5	✔
✔	BBABCBCAB	The length of the LPS is 7	The length of the LPS is 7	✔
✔	cbbd	The length of the LPS is 2	The length of the LPS is 2	✔
✔	abbab	The length of the LPS is 4	The length of the LPS is 4	✔

Passed all tests! ✔

Correct

Marks for this submission: 20.00/20.00.

Question **4**

Correct

Mark 20.00 out of 20.00

Create a python program to find the length of longest common subsequence using naive recursive method

For example:

Input	Result
AGGTAB GXTXAYB	Length of LCS is 4

Answer: (penalty regime: 0 %)

```
def lcs(X, Y, m, n):
    if m == 0 or n == 0:
        return 0
    elif X[m-1] == Y[n-1]:
        return 1 + lcs(X, Y, m-1, n-1);
    else:
        return max(lcs(X, Y, m, n-1), lcs(X, Y, m-1, n));
X = input()
Y = input()
print ("Length of LCS is ", lcs(X , Y, len(X), len(Y)) )

```

	Input	Expected	Got	
✔	AGGTAB GXTXAYB	Length of LCS is 4	Length of LCS is 4	✔
✔	saveetha engineering	Length of LCS is 2	Length of LCS is 2	✔

Passed all tests! ✔

Correct

Marks for this submission: 20.00/20.00.

Question **5**

Not answered

Mark 0.00 out of 20.00

Write a python program to implement quick sort using the last element as pivot on the given list of string values.

For example:

Test	Input	Result
quickSort(arr,0,n-1)	5 s a v e e	Sorted array is: a e e s v

Answer: (penalty regime: 0 %)

```
1
```