Introduction to Computer Science

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Example Input: **'abdcdba'**
Returns: 7 as the length

The program takes two parameters **'i'** and **'j'** which are the index of the first and the last position of the string.

The function LengthLPS starts with an if statements which checks if the first index and the last index (i,j) and returns 1, which means that if the first and last index is equal then the string contains just one character and the programs stops there as it returns True.
If it's not true, it moves on to the next if statement which checks the the value at the first(i) and last(j) index. If it's true, it moves onto another conditional statements which checks if the first + 1 is equal to the last index, which means that the string has 2 characters and both are same.
If the above condition does not hold, it returns and calls the function LengthLPS recursively and add 2 to it along with an increment in the "i" index and decrement in the "j" index which means if the first and last element are equal, then it will go and check the second and second last element and continues till the conditions fails.
If it fails now, or any other condition does not satisfies, the programs returns the maximum of the recursive call of the function LengthLPS with (i+1,j) and (i, j-1) parameters, which means that it will check for the largest Palindrome among that string.
For example: if the string is **"abcbak"**, it will check the string and returns 5 as the longest string.