**Strings and Queries**

Your friend John is solving a puzzle which has some rules for solving it. He gets stuck at some point and asks you for help. The puzzle has a string S which consists of lowercase English alphabets and there are two types of string operations that you can perform -

1. Delete a character from the string.
2. Change a character to any other character in the string.

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You are given P pairs, where each pair has two numbers L and R. A substring of string S can be formed from a pair, where L is the starting index and R is the last index. For each substring formed out of a pair, you need to find the minimum number of string operations required to convert it into a palindrome, by rearranging the characters of the modified substring.

**Note:**Rearranging of characters is not considered as a string operation and string indexing starts from 1.

**Input Specification:**

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| **input1**: a string S  **input2**: an integer denoting the length of the string  **input3**: a 2D array of pairs  **input4**: an integer denoting the length of the 2D array |

**Output Specification:**

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| An integer array consisting of the minimum number of operations required for each pair. |

**Example 1:**

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| **input1**: abadabcd  **input2**: 8  **input3**: {{1,3},{2,5}}  **input4**: 2 |

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| **Output:**  {0,1} |

**Explanation:**

The first pair is {1,3} and the corresponding substring will be “aba”. Since it is already a palindrome string, 0 string operations are required.

The second pair is {2,5} and the corresponding substring is “bada”. We can change the character 'b' to 'd' so then the substring becomes “dada”. We can further rearrange its characters to form “adda”, which is a palindrome.Also we could delete character 'b' from the string "bada" so the resultant string would be "ada", which is a palindrome. So, atleast 1 string operation(either deleting 'b' or changing 'b' to 'd') is required to convert "bada" into a palindrome.

Hence {0,1} will be returned as the answer.

**Example 2:**

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| **input1**: pmpkk  **input2**: 5  **input3**: {{1,2},{3,5},{4,4}}  **input4**: 3 |

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| **Output:**  {1,0,0} |

**Explanation:**

The first pair is {1,2} and the corresponding substring is “pm”. We can delete the character ‘p’ and then the substring will be “m” which is a palindrome, so 1 string operation is required.

The second pair is {3,5} and the corresponding substring is “pkk”. We can rearrange its characters to form “kpk”, which is a palindrome. So, 0 string operations are required.

The third pair is {4,4} and the corresponding palindrome is “k”, which already is a palindrome. So, 0 string operations are required.

Hence {1,0,0} will be returned as the answer.