23. You are given a string s. s[i] is either a lowercase English letter or '?'. For a string t having length m containing only lowercase English letters, we define the function cost(i) for an index i as the number of characters equal to t[i] that appeared before it, i.e. in the range [0, i - 1]. The value of t is the sum of cost(i) for all indices i. For example, for the string t = "aab":

cost(0) = 0

cost(1) = 1

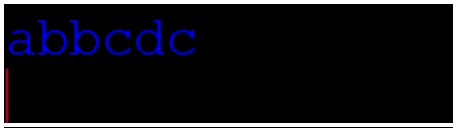
cost(2) = 0

Hence, the value of "aab" is 0 + 1 + 0 = 1. Your task is to replace all occurrences of '?' in s with any lowercase English letter so at the value of s is minimized.

Code:

```
def minimize_string_value(s):
    from collections import Counter
    import string

    n = len(s)

    count = Counter()

    s_list = list(s)

    for i in range(n):
        if s_list[i] == '?':

            min_char = min(string.ascii_lowercase, key=lambda c: count[c])
            s_list[i] = min_char
            count[min_char] += 1
        else:
            count[s_list[i]] += 1

    return ''.join(s_list)

s = "a?b??c"
result = minimize_string_value(s)
print(result)
```

Output:



Time Complexity:

- T(n)= O(n)