

Game with String

Given a string **s** of lowercase alphabets and a number **k**, the task is to print the minimum value of the string after removal of '**k**' characters. The value of a string is defined as the sum of squares of the count of each distinct character.

Example 1:

Input: s = abccc, k = 1

Output: 6

Explanation: We remove c to get the value as $1^2 + 1^2 + 1^2 = 3$

Example 2:

Input: s = aabcbcbcabcc, k = 3

Output: 27

Explanation: We remove two 'c' and one 'b'.

Now we get the value as $3^2 + 3^2 + 3^2 = 27$.

Your Task:

You do not need to read input or print anything. Your task is to complete the function **minValue()** which takes s and k as input parameters and returns the minimum possible required value.

Expected Time Complexity: $O(N \cdot \log N)$ where N is the length of string

Expected Auxiliary Space: $O(N)$

Constraints:

$1 \leq k \leq |\text{string length}| \leq 100$

```
import collections
import heapq
class Solution:
    def minValue(self, s, k):
        # code here
        count = collections.Counter(s)
        count = sorted(count.items(), key=lambda x: -x[1])
        heap = []
        for i in range(len(count)):
            heap.append(-count[i][1])
        heapq.heapify(heap)
        while k > 0:
            temp = heapq.heappop(heap)
```

```
        temp = temp+1
        heapq.heappush(heap,temp)
        k=k-1
ans = 0
while heap:
    ans = ans+pow(heapq.heappop(heap),2)
return ans
```