

1B Find the Most Frequent Words in a String

Frequent Words Problem

Find the most frequent words k -mers in a string.

Input: A DNA string $Text$ and an integer k .

Output: All most frequent k -mers in $Text$ (in any order).

AGAGACGTGAGAG
AGAGA AGA
GAG GAGAG

Formatting

Input: A DNA string $Text$ followed by an integer k .

Output: All most frequent k -mers in $Text$ (in any order).

Constraints

- The length of $Text$ will be between 1 and 10^4 .
- The integer k will be between 1 and 10^2 .
- $Text$ will be a DNA string.

Test Cases

Case 1

Description: The sample dataset is not actually run on your code.

Input:

TGGACGTTGGCCCAGCTGGTCCCACGTGGT

3

Output:

TGG

Case 2

Description: The sample dataset is not actually run on your code.

Input:

CGTTTTGAACATTTTCAACAAGTTTTGCAACATTTT

4

Output:

TTTT

Case 3

Description: The sample dataset is not actually run on your code.

Input:

GTTGGGTTGGAACAACAACAACAACAAGTTGGGTTGG

5

Output:

AACAA

Case 4

Description: The sample dataset is not actually run on your code.

Input:

ACGTTGCATGTCGCATGATGCATGAGAGCT

4

Output:

GCAT CATG

Case 5

Description: A larger dataset of the same size as that provided by the randomized autograder.