

## 1I Find the Most Frequent Words with Mismatches in a String

---

### Frequent Words with Mismatches Problem

Find the most frequent  $k$ -mers with mismatches in a string.

**Input:** A DNA string  $Text$  as well as integers  $k$  and  $d$ .

**Output:** All most frequent  $k$ -mers with up to  $d$  mismatches in  $Text$ .

CGACTAGTTT  
ATT ATT  
ATT

---

### Formatting

**Input:** A DNA string  $Text$  as well as integers  $k$  and  $d$ .

**Output:** A space-separated list of strings representing all most frequent  $k$ -mers with up to  $d$  mismatches in  $Text$ .

### Constraints

- The length of  $Text$  will be between 1 and  $10^3$ .
- The integer  $k$  will be between 1 and  $10^1$ .
- The integer  $d$  will be between 1 and  $10^1$ .
- $Text$  will be a DNA string.

## Test Cases

### Case 1

---

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

**Input:**

ACGTTGCATGTCGCATGATGCATGAGAGCT

4 1

**Output:**

ATGC ATGT GATG

### Case 2

---

**Description:** *Text* contains partial and complete matches for the most frequent word.

**Input:**

AGGT

2 1

**Output:**

GG

### Case 3

---

**Description:**  $d = 0$ .

**Input:**

AGGGT

2 0

**Output:**

GG

### Case 4

---

**Description:** *Text* has multiple most frequent words.

**Input:**

AGGCGG

3 0

**Output:**

AGG GGC GCG CGG

## Case 5

---

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