**WEEK 7**

**Experiments based on Tuples,Sets and its Operations**

There is a malfunctioning keyboard where some letter keys do not work. All other keys on the keyboard work properly.

Given a string text of words separated by a single space (no leading or trailing spaces) and a string brokenLetters of all distinct letter keys that are broken, return the number of words in text you can fully type using this keyboard.

Example 1:

Input: text = "hello world", brokenLetters = "ad"

Output:

1

Explanation: We cannot type "world" because the 'd' key is broken.

**For example:**

| **Input** | **Result** |
| --- | --- |
| hello world  ad | 1 |
| Faculty Upskilling in Python Programming  ak | 2 |

Answer:(penalty regime: 0 %)

s=input().split()

b=input()

b1=b.upper()

broken=b+b1

a=[]

for i in s:

for j in i:

if j in broken:

a.append(i)

break

print(len(s)-len(a))

|  | **Input** | **Expected** | **Got** |  |
| --- | --- | --- | --- | --- |
|  | hello world  ad | 1 | 1 |  |
|  | Welcome to REC  E | 1 | 1 |  |
|  | Faculty Upskilling in Python Programming  Ak | 2 | 2 |  |

Passed all tests!

**Correct**

Marks for this submission: 1.00/1.00.

### Question 2

Correct

Mark 1.00 out of 1.00

Flag question

#### Question text

Write a program to eliminate the common elements in the given 2 arrays and print only the non-repeating

elements and the total number of such non-repeating elements.

Input Format:

The first line contains space-separated values, denoting the size of the two arrays in integer format respectively.

The next two lines contain the space-separated integer arrays to be compared.

[Sample](https://www.rajalakshmicolleges.net/moodle/mod/quiz/view.php?id=5127) Input:

5 4

1 2 8 6 5

2 6 8 10

[Sample](https://www.rajalakshmicolleges.net/moodle/mod/quiz/view.php?id=5127) Output:

1 5 10

3

[Sample](https://www.rajalakshmicolleges.net/moodle/mod/quiz/view.php?id=5127)  Input:

5 5

1 2 3 4 5

1 2 3 4 5

[Sample](https://www.rajalakshmicolleges.net/moodle/mod/quiz/view.php?id=5127) Output:

NO SUCH ELEMENTS

**For example:**

| **Input** | **Result** |
| --- | --- |
| 5 4  1 2 8 6 5  2 6 8 10 | 1 5 10  3 |

Answer:(penalty regime: 0 %)

a,b = map(int, input().split())

l1 = list(map(int, input().split()))

l2 = list(map(int, input().split()))

x = [i for i in l1 if i not in l2]

y = [i for i in l2 if i not in l1]

z = x+y

if z:

print(' '.join(map(str, z)))

print(len(z))

|  | **Input** | **Expected** | **Got** |  |
| --- | --- | --- | --- | --- |
|  | 5 4  1 2 8 6 5  2 6 8 10 | 1 5 10  3 | 1 5 10  3 |  |
|  | 3 3  10 10 10  10 11 12 | 11 12  2 | 11 12  2 |  |

Passed all tests!

**Correct**

Marks for this submission: 1.00/1.00.

### Question 3

Correct

Mark 1.00 out of 1.00

Flag question

#### Question text

Given a tuple and a positive integer k, the task is to find the count of distinct pairs in the tuple whose sum is equal to **K**.

**Examples:**

**Input:** t = (5, 6, 5, 7, 7, 8 ), K = 13   
**Output:** 2   
**Explanation:**   
Pairs with sum K( = 13) are  {(5, 8), (6, 7), (6, 7)}.   
Therefore, distinct pairs with sum K( = 13) are { (5, 8), (6, 7) }.   
Therefore, the required output is 2.

**For example:**

| **Input** | **Result** |
| --- | --- |
| 1,2,1,2,5  3 | 1 |
| 1,2  0 | 0 |

Answer:(penalty regime: 0 %)

t=tuple(input().split(','))

t=tuple(int(i) for i in t)

k=int(input())

result=[]

for i in t:

for j in t:

if(i+j==k and not ([i,j] in result or [j,i] in result)):

result.append([i,j])

print(len(result))

|  | **Input** | **Expected** | **Got** |  |
| --- | --- | --- | --- | --- |
|  | 5,6,5,7,7,8  13 | 2 | 2 |  |
|  | 1,2,1,2,5  3 | 1 | 1 |  |
|  | 1,2  0 | 0 | 0 |  |

Passed all tests!

**Correct**

Marks for this submission: 1.00/1.00.

### Question 4

Correct

Mark 1.00 out of 1.00

Flag question

#### Question text

Given an array of strings words, return the words that can be typed using letters of the alphabet on only one row of American keyboard like the image below.

In the **American keyboard**:

* the first row consists of the characters "qwertyuiop",
* the second row consists of the characters "asdfghjkl", and
* the third row consists of the characters "zxcvbnm".



**Example 1:**

**Input:** words = ["Hello","Alaska","Dad","Peace"]

**Output:** ["Alaska","Dad"]

**Example 2:**

**Input:** words = ["omk"]

**Output:** []

**Example 3:**

**Input:** words = ["adsdf","sfd"]

**Output:** ["adsdf","sfd"]

**For example:**

| **Input** | **Result** |
| --- | --- |
| 4  Hello  Alaska  Dad  Peace | Alaska  Dad |
| 2  adsfd  afd | adsfd  afd |

Answer:(penalty regime: 0 %)

def check(name,row):

for i in name:

if(not (i in row)):

return False

return True

name=[input() for i in range(int(input()))]

r1='qwertyuiopQWERTYUIOP'

r2='asdfghjklASDFGHJKL'

r3='zxcvbnmZXCVBNM'

result=[]

for i in name:

if(i[0]in r1):

x=r1

elif(i[0]in r2):

x=r2

else:

x=r3

if(check(i,x)):

result.append(i)

if result:

for i in result:

print(i)

else:

print('No words')

|  | **Input** | **Expected** | **Got** |  |
| --- | --- | --- | --- | --- |
|  | 4  Hello  Alaska  Dad  Peace | Alaska  Dad | Alaska  Dad |  |
|  | 1  omk | No words | No words |  |
|  | 2  adsfd  afd | adsfd  afd | adsfd  afd |  |

Passed all tests!

**Correct**

Marks for this submission: 1.00/1.00.

### Question 5

Correct

Mark 1.00 out of 1.00

Flag question

#### Question text

The **DNA sequence** is composed of a series of nucleotides abbreviated as 'A', 'C', 'G', and 'T'.

* For example, "ACGAATTCCG" is a **DNA sequence**.

When studying **DNA**, it is useful to identify repeated sequences within the DNA.

Given a string s that represents a **DNA sequence**, return all the **10-letter-long** sequences (substrings) that occur more than once in a DNA molecule. You may return the answer in **any order**.

**Example 1:**

**Input:** s = "AAAAACCCCCAAAAACCCCCCAAAAAGGGTTT"

**Output:** ["AAAAACCCCC","CCCCCAAAAA"]

**Example 2:**

**Input:** s = "AAAAAAAAAAAAA"

**Output:** ["AAAAAAAAAA"]

**For example:**

| **Input** | **Result** |
| --- | --- |
| AAAAACCCCCAAAAACCCCCCAAAAAGGGTTT | AAAAACCCCC  CCCCCAAAAA |

Answer:(penalty regime: 0 %)

def findRepeatedSequences(s):

sequence\_count = {}

result = set()

for i in range (len(s) - 9):

sequence = s[i:i+10]

if sequence in sequence\_count:

result.add(sequence)

else:

sequence\_count[sequence] = 1

return list(result)

s = input()

repeated\_sequences = findRepeatedSequences(s)

for sequence in repeated\_sequences:

print(sequence)

|  | **Input** | **Expected** | **Got** |  |
| --- | --- | --- | --- | --- |
|  | AAAAACCCCCAAAAACCCCCCAAAAAGGGTTT | AAAAACCCCC  CCCCCAAAAA | AAAAACCCCC  CCCCCAAAAA |  |
|  | AAAAAAAAAAAAA | AAAAAAAAAA | AAAAAAAAAA |  |

Passed all tests!

**Correct**

Marks for this submission: 1.00/1.00.