08 – Tuple/Set

Examples:

Input: str = "01010101010"

Output: Yes

Input: str = "REC101"

Output: No

For example:

Input	Result
01010101010	Yes
01010110101	No

Ex. No. : 8.1 **Date:**

Register No.: **Name:**

Binary String

Coders here is a simple task for you, Given string str. Your task is to check whether it is a binary string or not by using python set.

```
a=(input())
cnt=0
for i in range(len(a)):
    if a[i]=='0' or a[i]=='1':
        cnt=cnt+1
if cnt==len(a):
    print('Yes')
else:
    print('No')
```

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

Ex. No. : 8.2 **Date:**

Register No.: **Name:**

Check Pair

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**.

```
t=tuple(input().split(','))
 k=int(input())
 d=[]
 for i in t:
    for j in t:
       if int(i)+int(j)==k:
          if (i,j) not in d:
             d.append((i,j))
print(len(d)//2
```

Example 1:

Input: s = "AAAAACCCCCAAAAACCCCCCAAAAAGGGTTT"
Output: ["AAAAACCCCC","CCCCCAAAAA"]

Example 2:

Input: s = "AAAAAAAAAAAAA"
Output: ["AAAAAAAAAA"]

For example:

Input	Result
AAAAACCCCCAAAAACCCCCCAAAAAGGGTTT	AAAAACCCCC CCCCCAAAAA

Ex. No. : 8.3 **Date:**

Register No.: **Name:**

DNA Sequence

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**.

```
s=input()
 sub={}
 r=[]
for i in range(len(s)-9):
    str=s[i:i+10]
    if str in sub:
      sub[str]+=1
   else:
      sub[str]=1
 if(sub[str]==2):
     r.append(str)
 for x in r:
    print(x)
```

Example 1:

Input: nums = [1,3,4,2,2]
Output: 2

Example 2:

Input: nums = [3,1,3,4,2]
Output: 3

For example:

Input	Result
1 3 4 4 2	4

Ex. No. : 8.4 **Date:**

Register No.: **Name:**

Print repeated no

Given an array of integers nums containing n + 1 integers where each integer is in the range [1, n] inclusive.There is only **one repeated number** in nums, return *this repeated number*. Solve the problem using set.

```
def fd(nums):
    visited=set()
    for num in nums:
        if num in visited:
            return num
        visited.add(num)
nums=[int(x) for x in input().split()]
print(fd(nums))
```

Sample Input:

5 4

1 2 8 6 5

2 6 8 10

Sample Output:

1 5 10

3

Sample Input:

5 5

1 2 3 4 5

1 2 3 4 5

Sample Output:

NO SUCH ELEMENTS

For example:

Input	Result
5 4 1 2 8 6 5 2 6 8 10	1 5 10 3

Ex. No. : 8.5 **Date:**

Register No.: **Name:**

Remove repeated

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.

```
size1, size2 = map(int, input().split())
array1 = list(map(int, input().split()))
array2 = list(map(int, input().split()))
set1 = set(array1)
set2 = set(array2)
non_repeating_elements = (set1.symmetric_difference(set2))
if non_repeating_elements:
    print(*sorted(non_repeating_elements))
    print(len(non_repeating_elements))
else:
    print("NO SUCH ELEMENTS")
```

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

Ex. No. : 8.6 **Date:**

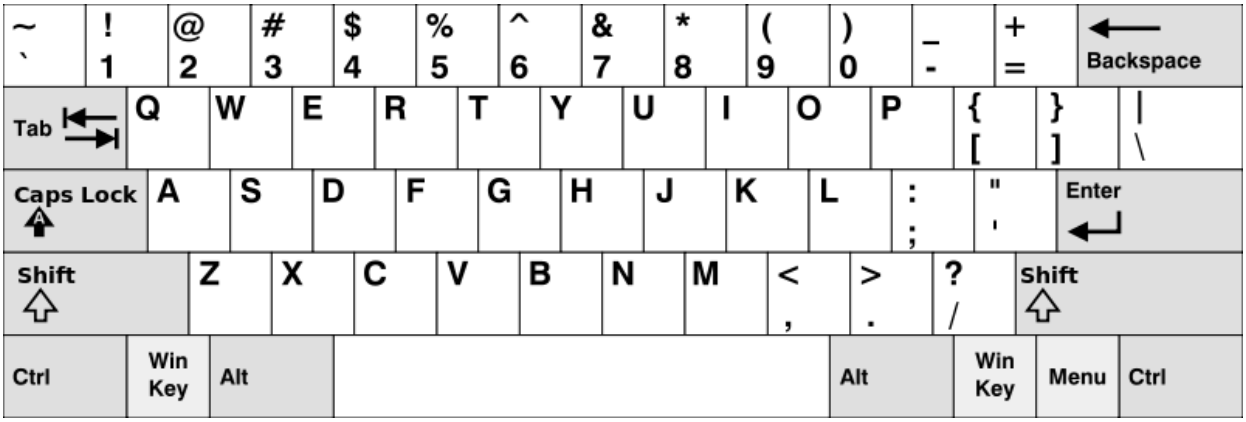
Register No.: **Name:**

Malfunctioning Keyboard

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.

```
a=input()
b=input()
cnt=0
for i in range(len(b)):
    if b[i] in a:
        cnt=cnt+1
print(cnt)
```



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

Ex. No. : 8.7 **Date:**

Register No.: **Name:**

American keyboard

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".

```
def findwords(words):
    row1=set('qwertyuiop')
    row2=set('asdfghjkl')
    row3=set('zxcvbnm')
    result=[]
    for word in words:
        w=set(word.lower())
        if w.issubset(row1) or w.issubset(row2) or w.issubset(row3):
            result.append(word)
    if len(result)==0:
        print("No words")
    else:
        for i in result:
            print(i)
a=int(input())
arr=[input() for i in range(a)]
findwords(arr)
```