08 – Tuple/Set

Examples:

Input: str = "01010101010"

Output: Yes

Input: str = "REC101"

Output: No

For example:

Input	Result
01010101010	Yes
010101 10101	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.

```
s=input()
count=0
for i in s:
    if ((i>='a' and i<='z') or (i>='A' and i<='Z')) or i==" ":
        count+=1
        break
if count==0:
    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(map(int, input().split(',')))
K = int(input())

s= set()
distinct_pairs = set()

for num in t:
    complement = K - num
    if complement in s:
        pair = tuple(sorted((num, complement)))
        distinct_pairs.add(pair)
    s.add(num)

print(len(distinct_pairs))
```

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().strip()
t= set()
r= set()
for i in range(len(s) - 9):
    seq = s[i:i+10]
    if seq in t:
        r.add(seq)
    else:
        t.add(seq)
for seq in r:
    print(seq)
```

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.

```
s=[int(i) for i in input().split()]
for i in s:
    if s.count(i)>1:
        print(i)
        break
```

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.

```
s=[int(i) for i in input().split()]
l1=[int(i) for i in input().split()]
l2=[int(i) for i in input().split()]
p=""
count=0
for i in l1:
    if i not in l2:
        p+=str(i)+" "
        count+=1
for i in l2:
    if i not in l1:
        p+=str(i)+" "
        count+=1
print(p)
print(count)
```

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:**

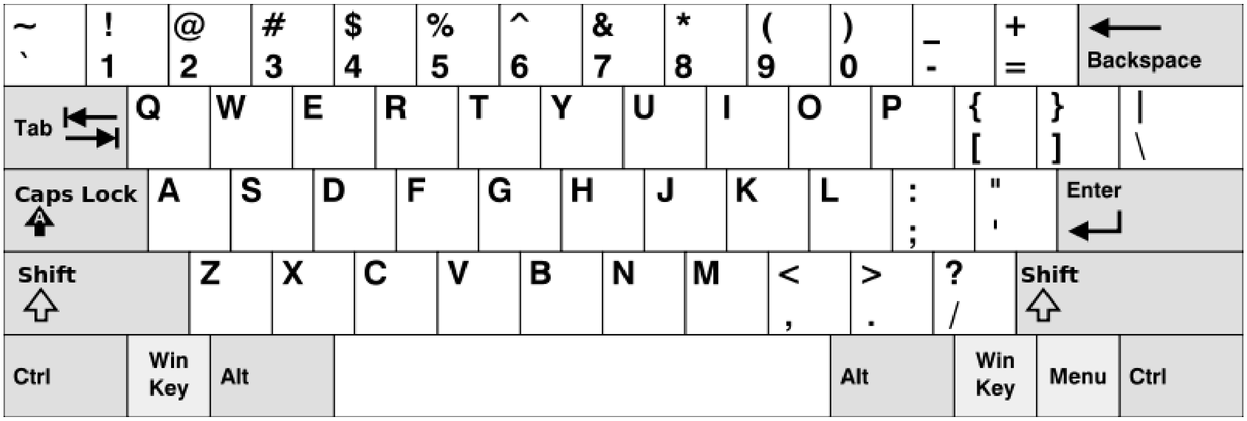
Register No.: **Name:**

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=[i for i in input()]
b=[i for i in input()]
count=0
for i in b:
    for j in a:
        if i in j:
            count+=1
            break
print(count)
```


~ ` ! 1 @ 2 # 3 $ 4 % 5 ^ 6 & 7 * 8 (9) 0 _ - + = Backspace
Tab Q W E R T Y U I O P { [}] | \
Caps Lock A S D F G H J K L : ; " ' Enter
Shift Z X C V B N M < , > . ? / Shift
Ctrl Win Key Alt Alt Win Key Menu Ctrl

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".

```
n=int(input())
f=0
a=[input() for i in range(n)]
l1=['qwertyuiop','asdfghjkl','zxcvbnm']
l=[[j for j in i] for i in l1]
for i in a:
    n=[j for j in i.lower()]
    if set(n)|set(l[0])==set(l[0]):
        f=1
        print(i)
        continue
    elif set(n)|set(l[1])==set(l[1]):
        f=1
        print(i)
        continue
    elif set(n)|set(l[2])==set(l[2]):
        f=1
        print(i)
        continue
if not f:
    print('No words')
```