

## **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:

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## **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.

PROGRAM:

**a=input()**

**if all(i in '10' for i in 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:**

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**Name:**

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## 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**.

**Program:**

```
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 = "AAAAACCCCCAAAAACCCCCAAAAAGGGTTT"

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

**Example 2:**

**Input:** s = "AAAAAAAAAAAAA"

**Output:** ["AAAAAAAAA"]

**For example:**

Input	Result
AAAAACCCCCAAAAACCCCCAAAAAGGGTTT	AAAAACCCCC CCCCAAAAA

Ex. No. : 8.3

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## 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**.

**Program:**

```
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:

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Name:

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### **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](#).

#### **Program:**

**n=input().split()**

**for i in n:**

**if n.count(i)>=2:**

**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:**

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## **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.

**Program:**

```
sizes = input().split()

size1 = int(sizes[0])

size2 = int(sizes[1])

array1 = input().split()

array2 = input().split()

array1 = list(map(int, array1))

array2 = list(map(int, array2))

set1 = set(array1)

set2 = set(array2)

common_elements = set1.intersection(set2)

unique_set1 = set1 - common_elements

unique_set2 = set2 - common_elements

unique_elements = unique_set1.union(unique_set2)

if unique_elements:
```

```
unique_elements_list = sorted(list(unique_elements))  
  
print(" ".join(map(str, unique_elements_list)))  
  
print(len(unique_elements_list))  
  
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:

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## **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.

### **Program:**

```
a=input().lower().split()
```

```
b=input()
```

```
c=0
```

```
for i in a:
```

```
    flag=0
```

```
    for j in i:
```

```
        if j in b:
```

```
            flag=1
```

```
            break
```

```
    if(flag==0):
```

```
        c+=1
```

```
print(c)
```



~ 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 = ["ad sdf","sfd"]

**Output:** ["ad sdf","sfd"]

### For example:

Input	Result
4 Hello Alaska Dad Peace	Alaska Dad



Ex. No. : 8.7

Date:

Register No.:

Name:

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## 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".

**Program:**

```
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()]
    #print(sorted(set(l[1]) | set(n))==sorted(set(l[1])))
    #print(set(l[1]),set(n))
    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')
```

