

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.

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.:

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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 .

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

Date:

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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**.

```
s = input()
if len(s)<10:
    result = []
else:
    sequences = {}
    result = []
    for i in range(len(s)-9):
        substring = s[i:i+10]
        if substring in sequences:
            sequences[substring]+=1
        else:
            sequences[substring]=1
    for sequence,count in
sequences.items():
        if count>1:
            result.append(sequence)
    for i in result:
        print(i)
```

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](#).

```
a=list(input().split(" "))
a=[int(x) for x in a]
for i in a:
    if a.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 5 10
1 2 8 6 5	3
2 6 8 10	

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.

```
import sys
input = sys.stdin.read
data = input().split()

size1 = int(data[0])
size2 = int(data[1])

array1= tuple(map(int, data[2:2 + size1]))
array2= tuple(map(int, data[2 + size1:]))

set1 = set(array1)
set2 = set(array2)

common_elements = set1 & set2

non_repeating_elements = (set1 | set2) -
common_elements

non_repeating_list = sorted(list
(non_repeating_elements))

print(" ".join(map(str,non_repeating_list)))

print(len(non_repeating_list))
```

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().split()]
k=list(input())
s=set()
for i in a:
    n=[j for j in i]
    m=[z for z in k if z in n]
    s.update(m)
print(len(s))
```

~ `	!	@	#	\$	%	^	&	*	()	-	+	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:

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".