

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.

```
a=input()
```

```
c=0
```

```
for i in range(len(a)):
```

```
    if (a[i]=='0' or a[i]=='1'):
```

```
        c=c+1
```

```
if c==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:

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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**.

```
tuple_str = input()
t = tuple(map(int, tuple_str.split(",")))
K = int(input())

distinct_pairs = set()
for i in range(len(t)):
    for j in range(i + 1, len(t)):
        if t[i] + t[j] == K:
            distinct_pairs.add((min(t[i], t[j]), max(t[i], t[j])))

print(len(distinct_pairs))
```

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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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**.

```
dna = input()
if not all(char in "ACGT" for char in dna):
    exit()
rep = []
d = {}
for i in range(len(dna) - 9):
    sub = dna[i:i+10]
    if sub in d:
        if d[sub] == 1:
            rep.append(sub)
        d[sub] += 1
    else:
        d[sub] = 1

if rep:
    for sequence in rep:
        print(sequence)
```

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 = input()
```

```
b = a.split() # Call split as a function
```

```
seen = set()
```

```
for num in b:
```

```
    if num in seen:
```

```
        print(num)
```

```
    else:
```

```
        seen.add(num)
```

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.

```
a = input().split()
n1 = input().split()
n2 = input().split()
c = set()
for num in n1:
    if num not in n2:
        c.add(num)
for num1 in n2:
    if num1 not in n1:
        c.add(num1)
c = sorted(map(int, c))
if c:
    print(" ".join(map(str, c)))
print(len(c))
```

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.

```
text = input()
```

```
brokenLetters = set(input())
```

```
words = text.split()
```

```
count = len(words)
```

```
for word in words:
```

```
    if any(letter in brokenLetters for letter in word):
```

```
        count -= 1
```

```
print(count)
```

~ `	!	@	#	\$	%	^	&	*	()	-	+	← 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".

```
words_input = input()
```

```
words = words_input.split()
```

```
first_row = set("qwertyuiop")
```

```
second_row = set("asdfghjkl")
```

```
third_row = set("zxcvbnm")
```

```
result = []
```

```
for word in words:
```

```
    lowercase_word = word.lower()
```

```
    if lowercase_word[0] in first_row:
```

```
        row_set = first_row
```

```
    elif lowercase_word[0] in second_row:
```

```
        row_set = second_row
```

```
    else:
```



```
row_set = third_row  
  
if all(char in row_set for char in lowercase_word):  
  
    result.append(word)  
  
print(result)
```

