08 – Tuple/Set

Ex. No. : 8.1 **Date:30/5/24**

Register No.: 231401035 Name:HEMALATHA.K

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: str = "01010101010"

Output: Yes

Input: str = "REC101"

Output: No

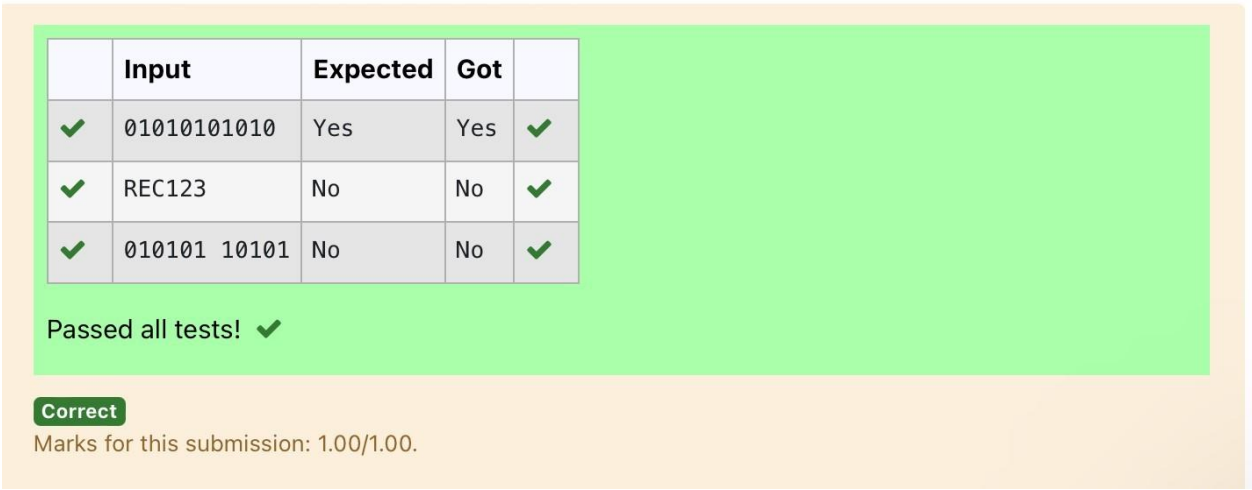
For example:

Input	Result
01010101010	Yes
010101 10101	No

Program:

```
a = input() try:
 c = int(a)
print("Yes") except:
    print("No")
```

Output:



	Input	Expected	Got	
✔	01010101010	Yes	Yes	✔
✔	REC123	No	No	✔
✔	010101 10101	No	No	✔

Passed all tests! ✔

Correct

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Ex. No. : **Date:**

Register No.: **Name:**

Ex. No: 8.2 **Date:30/5/24**

Register No:231401035 **Name:HEMALATHA.K**

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**.

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.

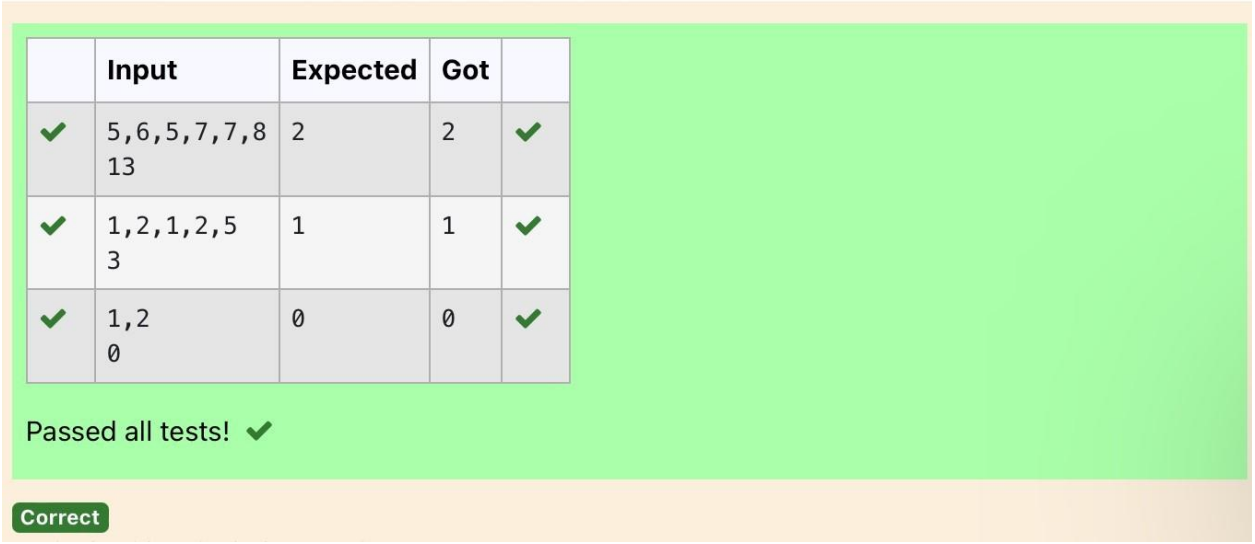
For example:

Input	Result
1,2,1,2,5 3	1
1,2 0	0

Program:

```
t = input()

k = int(input())

 a = t.split(",")

 l = [int(x) for x in

a] count = 0

 x = set()

 for i in

range(len(l)):

for j in range(i + 1, len(l)):        if l[i] + l[j]

== k:            s = (l[i], l[j])            if s not in

x and (l[j], l[i]) not in x:

                count += 1 x.add(s)

print(count)
```

Output:



	Input	Expected	Got	
✔	5,6,5,7,7,8 13	2	2	✔
✔	1,2,1,2,5 3	1	1	✔
✔	1,2 0	0	0	✔

Passed all tests! ✔

Correct

Ex. No: 8.3 **Date:30/5/24**

Ex. No. : **Date:**

Register No.: **Name:**

Register No:231401035 **Name:HEMALATHA.K**

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-letterlong** sequences (substrings) that occur more than once in a DNA molecule. You may return the answer in **any order**.

. **Example 1:**
Input: s = "AAAAACCCCCAAAAACCCCCCAAAAAGGGTTT" **Output:** ["AAAAACCCCC","CCCCCAAAAA"] **Example 2:**
Input: s = "AAAAAAAAAAAAA"
Output: ["AAAAAAAAAA"]

For example:

Input	Result
AAAAACCCCCAAAAACCCCCCAAAAAGGGTTT	AAAAACCCCC CCCCCAAAAA

Program:

```
s = input() j
= [] repeated = set()
for i in range(len(s) -
9):     sequence =
s[i:i+10]     if sequence
in j:
repeated.add(sequence)    else:
j.append(sequence)
l=list(repeated)
l=list(reversed(l)) for i in
l:     print(i)
```

Output:

	Input	Expected	Got	
✔	AAAAACCCCCAAAAACCCCCCAAAAAGGGTTT	AAAAACCCCCCCCCCAAAAA	AAAAACCCCCCCCCCAAAAA	✔
✔	AAAAAAAAAAAAA	AAAAAAAAAA	AAAAAAAAAA	✔

Passed all tests! ✔

Correct

Marks for this submission: 1.00/1.00.

Ex.No:8.4 **Date:30/5/24**

Register No:231401035. Name: HEMALATHA.K

Ex. No. : **Date:**

Register No.: **Name:**

Print repeated no

Given an array of integers numscontaining 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 usingset.

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

Program:

```
n =input().split(" ") n
. = list(n) for i in range(len(n)):
    for j in range(i+1,len(n)):
 if n[i] == n[j]:
print(n[i])
  exit(0)
```

Output:

	Input	Expected	Got	
✔	1 3 4 4 2	4	4	✔
✔	1 2 2 3 4 5 6 7	2	2	✔

Passed all tests! ✔

Correct

Marks for this submission: 1.00/1.00.

Ex. No:8.5. **Date:30/5/24**

Register No:231401035. **Name: HEMALATHA.K**

Ex. No. : **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.

SampleInput:

5 4

1 2 8 6 5

2 6 8 10

SampleOutput:

1 5 10

3

SampleInput:

5 5

1 2 3 4 5

1 2 3 4 5

SampleOutput:

NO SUCH ELEMENTS

For example:

Input	Result

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

Program:

```
a=input() d=[]
.
b=input() c=input()

b=tuple(b.split(" "))

c=tuple(c.split(" "))

for i in b:     if i not in

c:

d.append(i) for i in

c:     if i

not in b:

d.append(i) for i in

range(len(d)):

print(int(d[i]),end=' ') print()

print(len(d))
```

Output:

Ex. No. : **Date:**

Register No.: **Name:**

	Input	Expected	Got	
✔	5 4 1 2 8 6 5 2 6 8 10	1 5 10 3	1 5 10 3	✔
✔	3 3 10 10 10 10 11 12	11 12 2	11 12 2	✔

Passed all tests! ✔

Correct

Marks for this submission: 1.00/1.00.

Ex. No. : 8.6 **Date:30/5/24**

Register No.:231401035 Name:HEMALATHA.K

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.

Example 1:

Input: text = "hello world", brokenLetters = "ad" Output:

1

Explanation: We cannot type "world" because the 'd' key is broken.

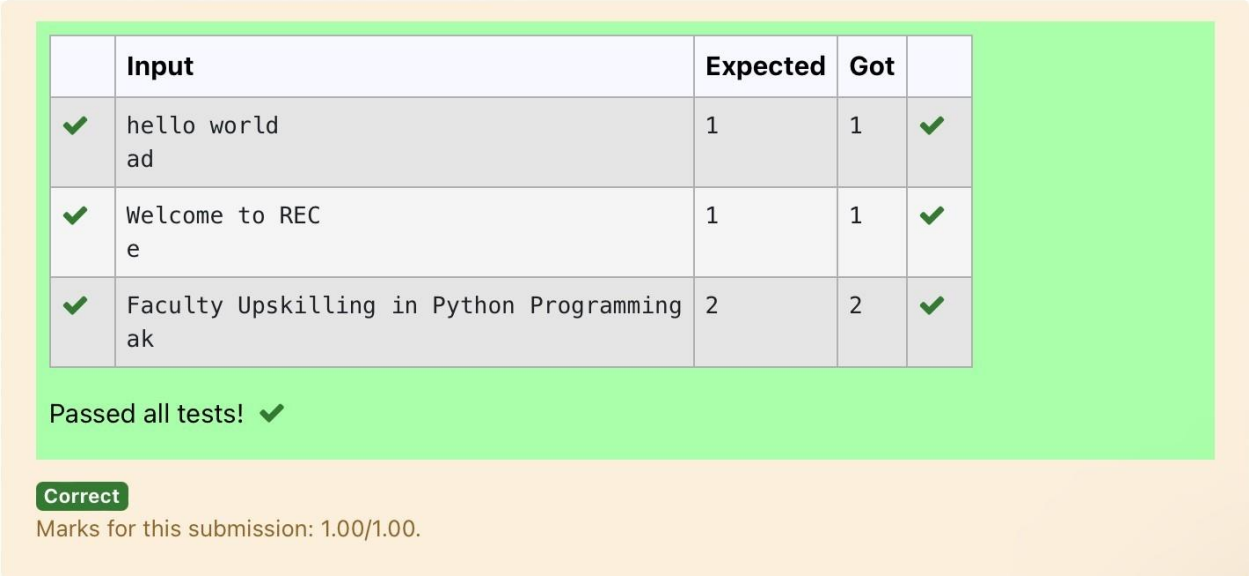
For example:

Input	Result
hello world ad	1

Program:

```
a=input()
b=input()
c=set() for i
in a:    for j
in b:        if j
in i:
c.add(i) print(len(c))
```

Output:



	Input	Expected	Got	
✔	hello world ad	1	1	✔
✔	Welcome to REC e	1	1	✔
✔	Faculty Upskilling in Python Programming ak	2	2	✔

Passed all tests! ✔

Correct

Marks for this submission: 1.00/1.00.

Ex. No. : 8.7 **Date: 30/5/24**

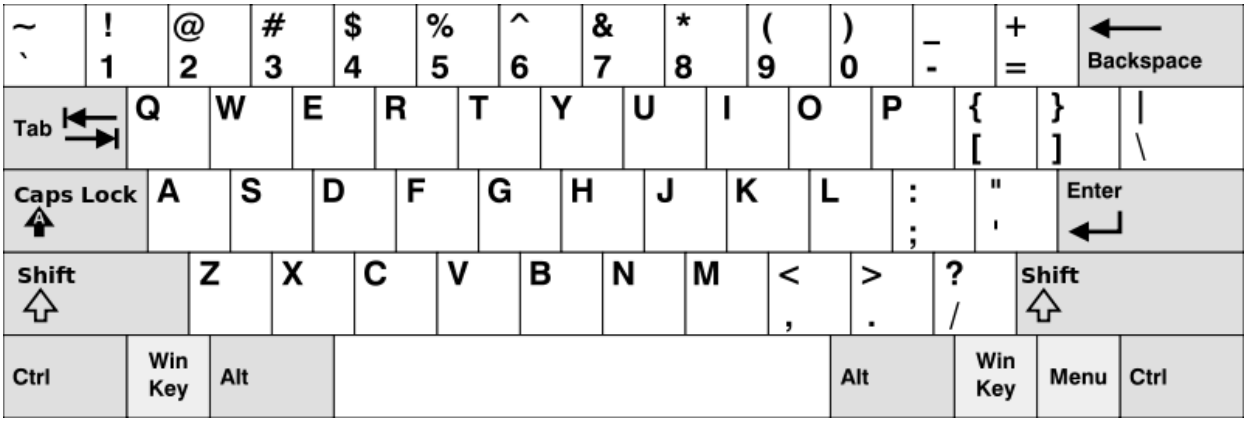
Register No.: 231401035 Name:HEMALATHA.K

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"



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

Program:

```
deffindWords(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)
```

Output:

	Input	Expected	Got	
✔	4 Hello Alaska Dad Peace	Alaska Dad	Alaska Dad	✔
✔	1 omk	No words	No words	✔
✔	2 adsfd afd	adsfd afd	adsfd afd	✔

Passed all tests! ✔

Correct

Marks for this submission: 1.00/1.00.