08 – Tuple/Set

Ex. No. : 8.1 **Date: 22.05.2024**

Register No.: 231501177 **Name:** UMESH SARATHY S 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

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

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

Passed all tests! ✔

Correct

Marks for this submission: 1.00/1.00.

Ex. No. : 8.2 **Date: 22.05.2024**

Register No.: 231501177 **Name:** UMESH SARATHY S 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

```
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)
```

	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: 22.05.2024**

Register No.: 231501177 **Name:** UMESH SARATHY S 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-letter-long** 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

```
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)
```

	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: 22.05.2024**

Register No.: 231501177 **Name:** UMESH SARATHY S K

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.

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

```
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)
```

	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: 22.05.2024**

Register No.: 231501177 **Name:** UMESH SARATHY S K

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.

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	1 5 10 3

Input	Result
2 6 8 10	

```
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))
```

	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: 22.05.2024**

Register No.: 231501177 **Name:** UMESH SARATHY S 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

```
a=input()
b=input()
c=set()
for i in a:
    for j in b:
        if j in i:
```

```
        c.add(i)
print(len(c))
```

	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: 22.05.2024**

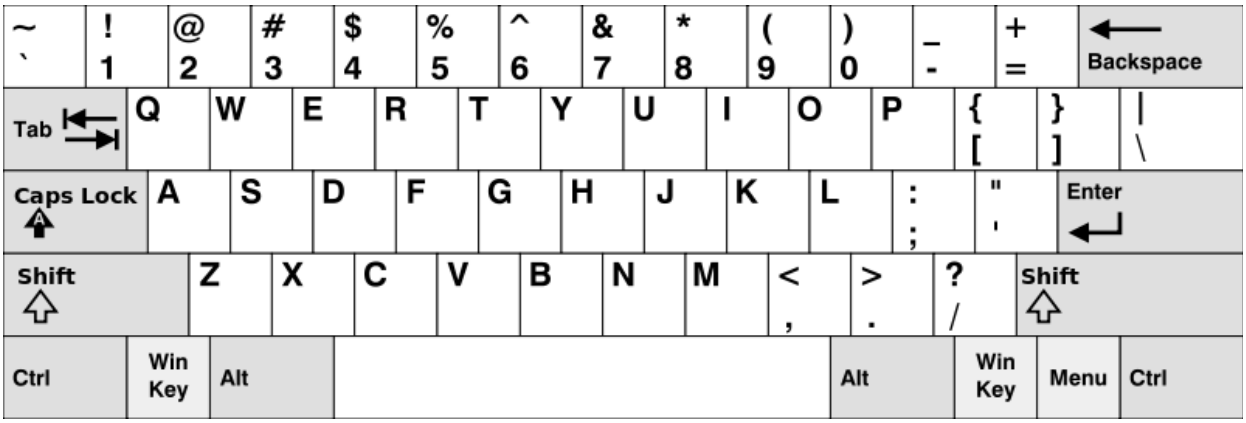
Register No.: 231501177 **Name:** UMESH SARATHY S K

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	Alaska

Input	Result
Hello Alaska Dad Peace	Dad

```
def findWords(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)
```

	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.