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.: 230701080 **Name: Dinisha R**

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.

Solution:

```
s=input()
count=0
for i in s:
    if ((i>='a' and i<='z') or (i>='A' and i<='Z')) or i==" ":
        count+=1
        break
if count==0:
    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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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**.

Solution:

```
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 = "AAAAACCCCCAAAAACCCCCCAAAAAGGGTTT"
Output: ["AAAAACCCCC","CCCCCAAAAA"]

Example 2:

Input: s = "AAAAAAAAAAAAA"
Output: ["AAAAAAAAAA"]

For example:

Input	Result
AAAAACCCCCAAAAACCCCCCAAAAAGGGTTT	AAAAACCCCC CCCCCAAAAA

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**.

Solution:

```
a=tuple(input())
b=[]
for i in range(len(a)):
   b.append(a[i])
   if i==9:
      break
c="".join(b)
d=c[::-1]
if c!=d:
   print(c)
   print(d)
else:
   print(c)
```

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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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.

Solution:

```
nums=input().split()
for i in nums:
    if nums.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 2 8 6 5
2 6 8 10
	1 5 10
	3

Ex. No. : 8.5 **Date:**

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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.

Solution:

```
n1=input()
n1=n1.split()

s1=input().split()
s2=input().split()
b=[]
count=0
for i in range(int(n1[0])):
    for j in range(int(n1[1])):
        if s1[i] not in s2 :
            if (s1[i] not in b):
                b.append(s1[i])

for i in range(int(n1[1])):
    for j in range(int(n1[0])):
        if s2[i] not in s1:
            if s2[i] not in b:
                b.append(s2[i])
while i!=len(b)-1:
    for i in range(len(b)):
        print(b[i],end=" ")
        count+=1
print("\n",end="")
if count!=0:
    print(count)
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:**
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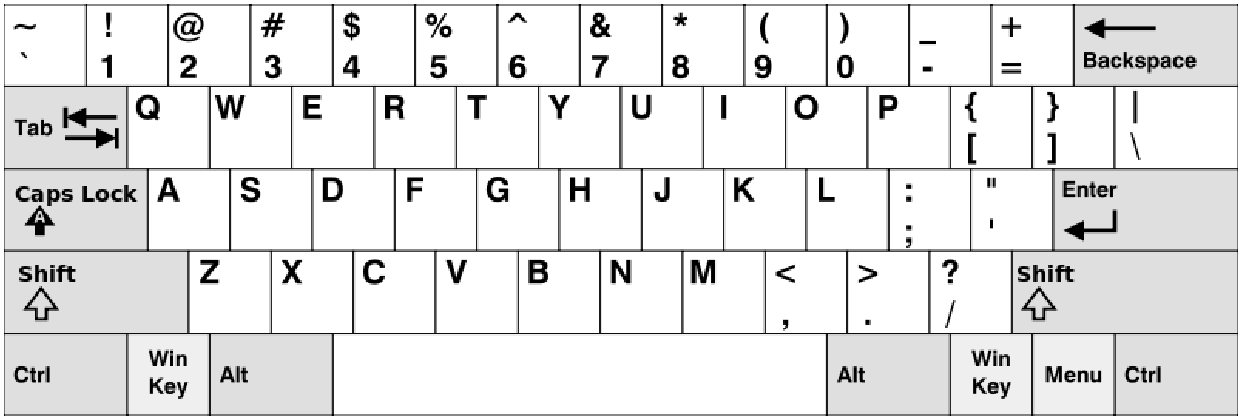
Malfunctioning Keyboard

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.

Solution:

```
s1=list(input())
s2=list(input())
b=[]
count=0
for i in range(len(s1)):
    for j in range(len(s2)):
        if s2[j] in s1[i]:
            if s2[j] not in b:
                b.append(s2[j])
for i in range(len(b)):
    count+=1
print(count)
```



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.: 230701080 **Name: Dinisha R**

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".

Solution:

```
a=int(input())
lst=[]
for i in range(0,a):
    b=input("")
    lst.append(b)
lst2=['q','w','e','r','t','y','u','i','o','p','Q','W','E','R','T','Y','U','I','O','P']
lst3=['a','s','d','f','g','h','j','k','l','A','S','D','F','G','H','J','K','L']
lst4=['z','x','c','v','b','n','m','Z','X','C','V','B','N','M']
l=0
m=0
n=0
lst5=[]
for i in lst:
    l=0
    m=0
    n=0
    j=i
    b=len(j)
    for k in range(0,b):
        if(i[k] not in lst3 and i[k] not in lst4):
            l+=1
        elif(i[k] not in lst2 and i[k] not in lst4):
            m+=1
        elif(i[k] not in lst2 and i[k] not in lst3):
            n+=1
    if(l==b or m==b or n==b):
```

```
 lst5.append(i)
p=0
for i in lst5:
    p+=1
    if i!=0:
        print(i)
if(p==0):
    print("No words")
```