# 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:**

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# 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()
for i in a:
    if i not in ['0','1']:
        print("No")
        break
else:
    print("Yes")
```

**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<br>3 | 1 |
| 1,2<br>0 | 0 |

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

**Register No.:** **Name:**

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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**.

```
t=eval(input())
k=int(input())
seen = set()
dist=set()
for i in t:
    comp=k-i
    if comp in seen:
        dist.add((min(i,comp),max(i,comp)))
    seen.add(i)
print(len(dist))
```

### Example 1:

**Input:** s = "AAAAACCCCCAAAAACCCCCCAAAAAGGGTTT"
**Output:** ["AAAAACCCCC","CCCCCAAAAA"]

### Example 2:

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

### For example:

| Input | Result |
|---|---|
| AAAAACCCCCAAAAACCCCCCAAAAAGGGTTT | AAAAACCCCC<br>CCCCCAAAAA |

**Ex. No. : 8.3** **Date:**

**Register No.:** **Name:**

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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()
seq={}
res=[]
for i in range(len(s)-9):
    sub=s[i:i+10]
    if sub in seq:
        seq[sub]+=1
    else:
        seq[sub]=1
for seq,count in seq.items():
    if count>1:
        res.append(seq)
for i in res:
    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:**

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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.

```
s=input().split(' ')
a=sorted(s)
for i in range(len(a)):
    if a[i]==a[i+1]:
        print(a[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<br>1 2 8 6 5<br>2 6 8 10 | 1 5 10<br>3 |

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

**Register No.:** **Name:**

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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.

```
t=eval(input())
k=int(input())
seen = set()
dist=set()
for i in t:
    comp=k-i
    if comp in seen:
        dist.add((min(i,comp),max(i,comp)))
    seen.add(i)
print(len(dist))
```

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<br>ad | 1 |

**Ex. No. : 8.6** **Date:**

**Register No.:** **Name:**

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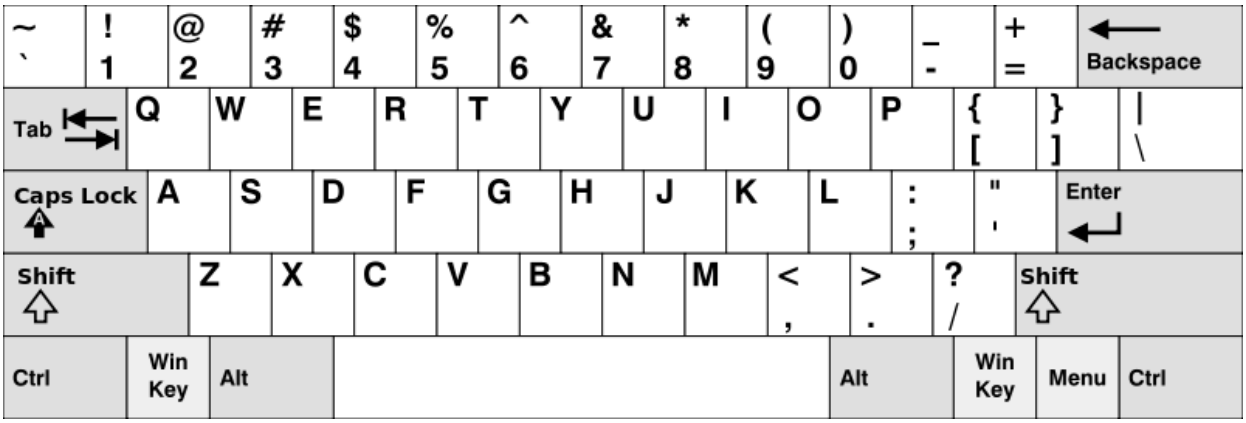
# Malfunctioning Keyboard

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.

```
n=int(input())
f=0
a=[input() for i in range(n)]
l1=['qwertyuiop','asdfghjkl','zxcvbnm']
l=[[j for j in i] for i in l1]
for i in a:
    n=[j for j in i.lower()]
    #print(sorted(set(l[1])|set(n))==sorted(set(l[1])))
    #print(set(l[1]),set(n))
    if set(n)|set(l[0])==set(l[0]):
        f=1
        print(i)
        continue
    elif set(n)|set(l[1])==set(l[1]):
        f=1
        print(i)
```

```
        continue
    elif set(n)|set(l[2])==set(l[2]):
        f=1
        print(i)
        continue
if not f:
    print('No words')
```




### 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<br>Hello<br>Alaska<br>Dad<br>Peace | Alaska<br>Dad |

**Ex. No. : 8.7** **Date:**

**Register No.:** **Name:**

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# 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".

```
n=int(input())
f=0
a=[input() for i in range(n)]
l1=['qwertyuiop','asdfghjkl','zxcvbnm']
l=[[j for j in i] for i in l1]
for i in a:
    n=[j for j in i.lower()]
    #print(sorted(set(l[1])|set(n))==sorted(set(l[1])))
    #print(set(l[1]),set(n))
    if set(n)|set(l[0])==set(l[0]):
        f=1
        print(i)
        continue
    elif set(n)|set(l[1])==set(l[1]):
        f=1
        print(i)
        continue
    elif set(n)|set(l[2])==set(l[2]):
        f=1
        print(i)
        continue
if not f:
    print('No words')
```