08 –Tuple/Set

Ex. No. : 8.1 **Date: 18-04-2024**

Register No.: 2116231501072 **Name: Kanishka P**

BinaryString

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
01010110101	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

Marks for this submission: 1.00/1.00.

Ex. No. : 8.2 **Date: 18-04-2024**

Register No.: 2116231501072 **Name: Kanishka P**

CheckPair

Givenatupleandapositiveintegerk,thetaskistofindthecountofdistinctpairsin the tuple whose sum is equal to **K**.

Examples:

Input:t= (5,6,5,7,7,8),K=13
Output: 2 Explanation:
Pairswith sumK(=13)are{(5,8),(6,7),(6, 7)}.
Therefore, distinctpairswithsumK(=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:

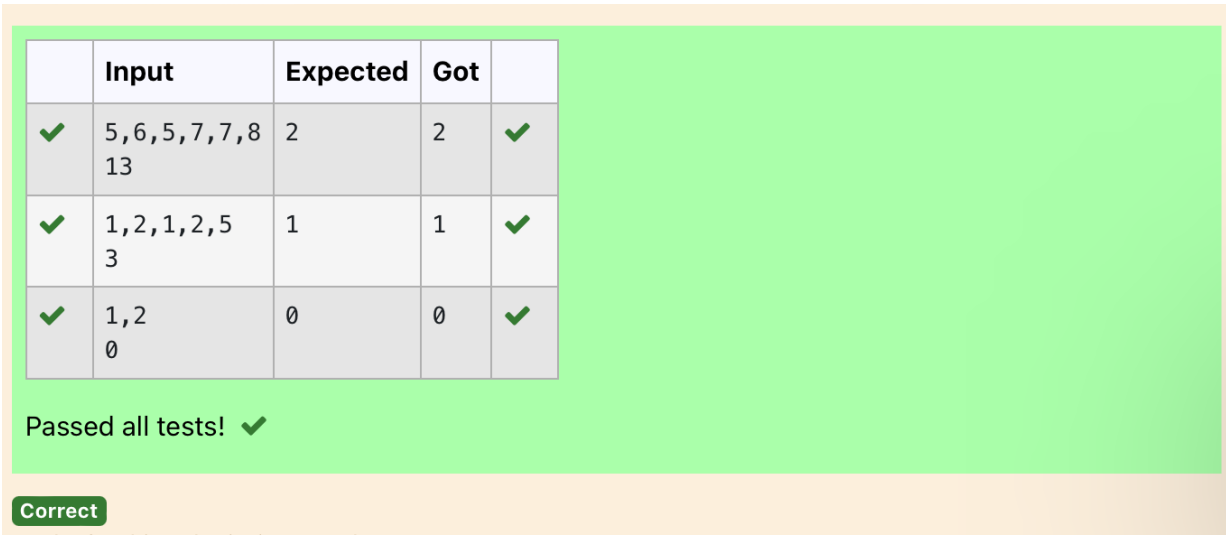
```
t= input()
k=int(input()) a =
t.split(",")
l=[int(x)forxina] count
= 0
x= set()

foriinrange(len(l)):
```

```
    forjinrange(i+1,len(l)): if l[i] +
        l[j] == k:
            s=(l[i], l[j])
            ifsnotinxand(l[j],l[i]) notinx: 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: 18-04-2024**

Register No.: 2116231501072 **Name: Kanishka P**

DNASequence

TheDNA sequenceis composed of a series of nucleotides abbreviated as 'A','C','G', and 'T'.

Forexample,"ACGAATTCCG"isaDNAsequence.

WhenstudyingDNA,itisusefultoidentifyrepeatedsequenceswithintheDNA.

Givenastrings thatrepresentsa **DNAsequence**,returnallthe10-letter- longsequences (substrings) that occur more than once in a DNA molecule. You may return the answer in **any order**.

Example1:

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

Example2:

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

For example:

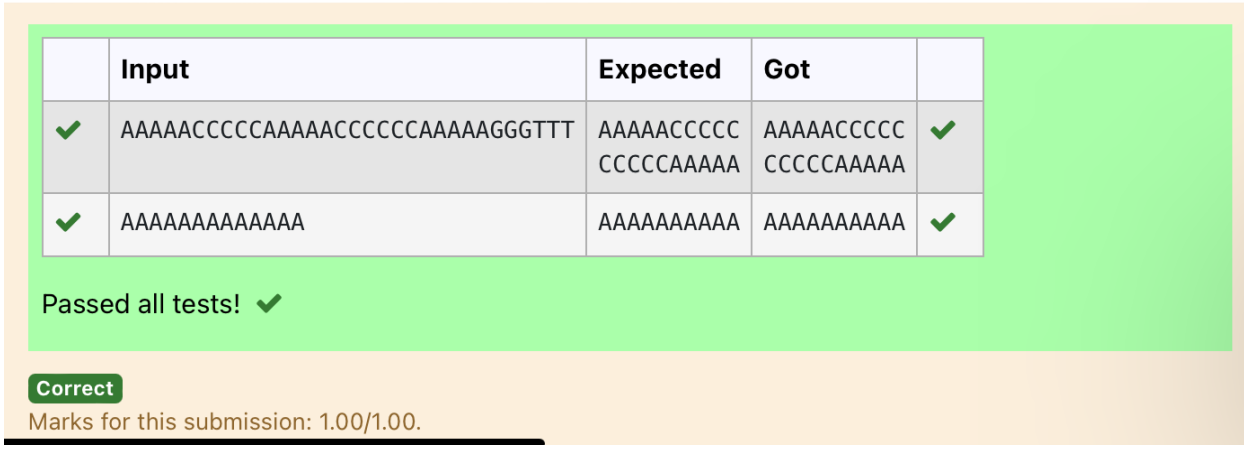
Input	Result
AAAAACCCCCAAAAACCCCCCAAAAAGGGTTT	AAAAACCCCC CCCCCAAAAA

Program:

```
s=input() j
= []
repeated=set()
foriinrange(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	AAAAACCCCC CCCCCAAAAA	AAAAACCCCC CCCCCAAAAA	✔
✔	AAAAAAAAAAAAA	AAAAAAAAAA	AAAAAAAAAA	✔

Passed all tests! ✔

Correct

Marks for this submission: 1.00/1.00.

Ex. No. : 8.4 **Date: 18-04-2024**

Register No.: 2116231501072 **Name: Kanishka P**

Printrepeatedno

Givenanarrayofintegersnums containingn +1 integerswhereeach integerisin the range[1,n] inclusive.Thereisonly **onerepeatednumber**innums, return *this repeated number*. Solve the problem using set.

Example1:

Input:nums=[1,3,4,2,2]
Output:2

Example2:

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)
foriinrange(len(n)):
    forjinrange(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: 18-04-2024**

Register No.: 2116231501072 **Name: Kanishka P**

Removerepeated

Writeaprogramtoeliminatethecommonelementsinthegiven2arraysandprint only the non-repeating elements and the total number of such non-repeating elements.

InputFormat:

Thefirstline containsspace-separatedvalues,denotingthesizeofthetwo arraysin integer format respectively.

Thenexttwolinescontainthespace-separatedintegerarraystobecompared.

SampleInput:

54

12865

26810

SampleOutput:

1510

3

SampleInput:

55

12345

12345

SampleOutput:

NOSUCHELEMENTS

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)
foriinc:
    if i not in b: d.append(i)
for i in range(len(d)):
    print(int(d[i]),end='')
print()
print(len(d))
```

Output:

	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: 18-04-2024**

Register No.: 2116231501072 **Name: Kanishka P**

MalfunctioningKeyboard

Thereisamalfunctioningkeyboardwheresomeletterkeysdonotwork.Allother keys on the keyboard work properly.

Given a string text of words separated by a single space (no leading or trailing spaces)andastringbrokenLettersofalldistinctletterkeys thatarebroken,return the number of words in text you can fully type using this keyboard.

Example1:

Input:text="helloworld",brokenLetters="ad"Output:

1

Explanation:Wecannottype"world"becausethe'd'keyisbroken.

For example:

Input	Result
helloworld ad	1

Program:

```
a=input()
b=input() c=set()
for i in a:
    forjinb:
        ifjin 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: 18-04-2024**

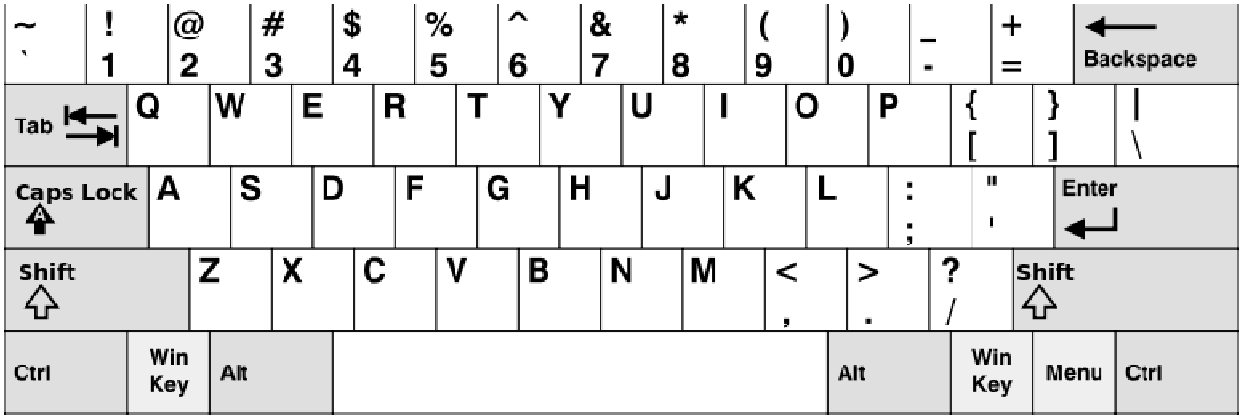
Register No.: 2116231501072 **Name: Kanishka P**

Americankeyboard

Givenanarrayofstrings words,return*the wordsthatcanbetyped usingletters of the alphabet on only one row of American keyboard like the image below*.

Inthe**American keyboard**:

- thefirstrowconsistsofthecharacters"qwertyuiop",
- thesecondrowconsistsofthecharacters "asdfghjkl",and
- thethirdrowconsistsofthe characters"zxcvbnm"



Example1:

Input:words=["Hello","Alaska","Dad","Peace"]
Output:["Alaska","Dad"]

Example2:

Input:words=["omk"]
Output:[]

Example3:

Input:words=["adsdf","sfd"]
Output:["adsdf","sfd"]

For example:

Input	Result
4 Hello Alaska Dad Peace	Alaska Dad

Program:

```
def findWords(words):
    row1=set('qwertyuiop') row2
    = set('asdfghjkl') row3 =
    set('zxcvbnm')

    result=[]
    forword inwords:
        w= set(word.lower())
        ifw.issubset(row1)orw.issubset(row2)orw.issubset(row3): result.append(word)
    if len(result) == 0:
        print("Nowords")
    else:
        foriinresult: print(i)

a= int(input())
arr=[input()foriinrange(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.