

07 – Tuple, Set and Dictionary and its Operations

Ex. No.: 7.1

Date:

Register No.: 2116231501105

Name: Nandhini Prakash

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

```
1 l = list(map(int, input().split()))
2 a = []
3 for i in l:
4     if i in a:
5         res = i
6         break
7     a.append(i)
8 print(res)
```

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

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Ex. No.: 7.2

Date:

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Name: Nandhini Prakash

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

Answer: (penalty regime: 0 %)

```
1 a = list(set(input()))
2 if ' ' in a:
3     print("No")
4 elif '1' in a and '0' in a:
5     print("Yes")
6 else:
7     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.: 7.3

Date:

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Name: Nandhini Prakash

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 = "AAAAACCCCCAAAAACCCCCAAAAAGGGTTT"`

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

Example 2:

Input: `s = "AAAAAAAAAAAA"`

Output: `["AAAAAAAAAA"]`

Program:

```
1 a = input()
2 res = [a[i:j] for i in range(len(a))
3       for j in range(i+1, len(a)+1)]
4 res = list(set(res))
5 r = []
6 for i in res:
7     if(len(i) == 10):
8         if(i[::-1] in res):
9             r.append(i)
10            r.append(i[::-1])
11            break
12 r.sort()
13 if(r[0] == r[1]):
14     print(r[0])
15 else:
16     for i in r:
17         print(i)
```

Output:

	Input	Expected	Got	
✓	AAAAACCCCCAAAAACCCCCAAAAAGGGTTT	AAAAACCCCC CCCCCAAAA	AAAAACCCCC CCCCCAAAA	✓
✓	AAAAAAAAAAAAA	AAAAAAAAA	AAAAAAAAA	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

Ex. No.: 7.4

Date:

Register No.: 2116231501105

Name: Nandhini Prakash

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
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```
1 a = input()
2 b = list(input())
3 l = a.split()
4 c = 0
5 f = 0
6 for i in l:
7     for j in b:
8         if j not in i.lower():
9             f = 1
10        else:
11            f = 0
12            break
13    if(f == 1):
14        c = c + 1
15 print(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.: 7.5

Date:

Register No.: 2116231501105

Name: Nandhini Prakash

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:

```
1 a = list(set(eval(input())))
2 s = int(input())
3 c = 0
4 for i in range(len(a)):
5     for j in range(len(a)):
6         res = a[i] + a[j]
7         if(res == s):
8             c = c + 1
9             break
10 print(c//2)
```

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				
Marks for this submission: 1.00/1.00.				