Started on	Friday, 24 May 2024, 8:14 AM
State	Finished
Completed on	Friday, 24 May 2024, 9:05 AM
Time taken	50 mins 48 secs
Marks	5.00/5.00
Grade	**100.00** out of 100.00

Question **1**

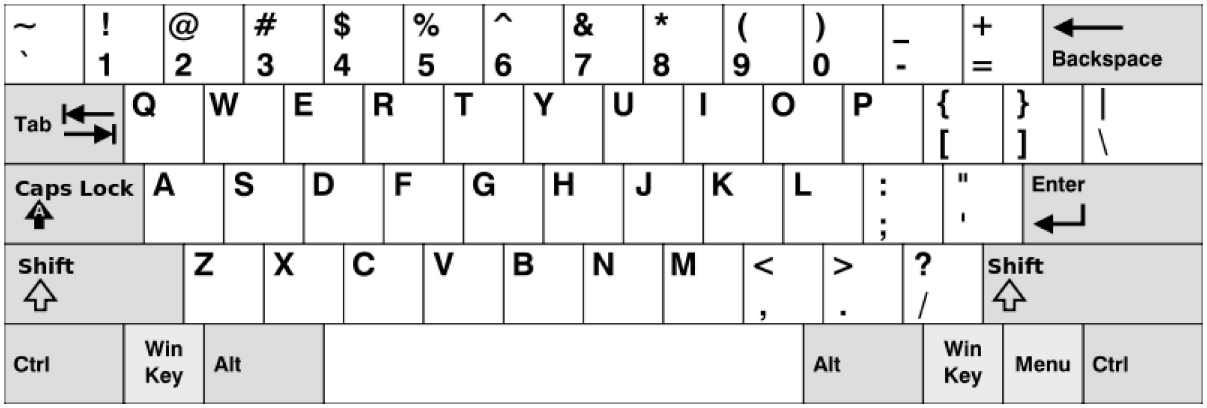
Correct

Mark 1.00 out of 1.00

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 Hello Alaska Dad Peace	Alaska Dad
2 adsfd afd	adsfd afd

Answer: (penalty regime: 0 %)

```
a = int(input())
c = []
for i in range(a):
    c.append(input())
d = []
```

```
r1 = "qwertyuiop"
r2 = "asdfghjkl"
r3 = "zxcvbnm"
for i in c:
    l = ""
    for j in i.lower():
        if l=="":
            if j in r1:l=r1
            elif j in r2:l=r2
            else:l=r3
        if j not in l:
            d.append(i)
            break
k = 1
for i in c:
    if i not in d:
        k = 0
        print(i)
if k:
    print("No words")

```

	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.

Question **2**

Correct

Mark 1.00 out of 1.00

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

Answer: (penalty regime: 0 %)

```
def cp(t,k):
    freq={}
    for num in t:
        freq[num]=freq.get(num,0)+1
    count=0
    for num in set(t):
        complement= k-num
        if complement in freq and (complement != num or freq[num]>1):
            count+=1
    return count//2
t=tuple(map(int,input().split(',')))
k=int(input())
result=cp(t,k)
print(result)
```

	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.

Question **3**

Correct

Mark 1.00 out of 1.00

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

Answer: (penalty regime: 0 %)

```
def Sequences(s):
    if len(s) < 10:
        return[]
    count = {}
    result = []
    for i in range(len(s) - 9):
        sequence = s[i:i+10]
        if sequence in count:
            count[sequence] += 1
        else:
            count[sequence] = 1
    for sequence, c in count.items():
        if c>1:
           result.append(sequence)
    return result

s = input()
result = Sequences(s)
for sequence in result:
    print(sequence)
```

	Input	Expected	Got	
✓	AAAAACCCCCAAAAACCCCCCAAAAAGGGTTT	AAAAACCCCC CCCCCAAAAA	AAAAACCCCC CCCCCAAAAA	✓

	Input	Expected	Got	
✓	AAAAAAAAAAAA	AAAAAAAAAA	AAAAAAAAAA	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

Question **4**

Correct

Mark 1.00 out of 1.00

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

Answer: (penalty regime: 0 %)

```
def f(nums):
    seen=set()
    for num in nums:
        if num in seen:
           return num
        seen.add(num)
if __name__=="__main__":
    nums=list(map(int,input().split()))
    d=f(nums)
    print(f"{d}")
```

	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.

Question **5**

Correct

Mark 1.00 out of 1.00

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
Faculty Upskilling in Python Programming ak	2

Answer: (penalty regime: 0 %)

```
def cw(text,brl):
    text=text.lower()
    brl=brl.lower()
    words=text.split()
    c=0
    for word in words:
        if any(l in brl for l in word):
            continue
        c+=1
    return c
text=input("")
brl=input("")
result=cw(text,brl)
print(result)
```

	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.

◄ Week7_MCQ

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Dictionary ►