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Python Lab Week_6 submission

Q.1

```
event1 = {"Anaya", "Bob", "Charlie", "Aditya", "Eva"}
event2 = {"Bob", "Charlie", "Naman", "Grace", "Eva"}
print("Q1. Event Attendance:")
print("The students that attended both the events are: ", event1.intersection(event2))
print("The students that attended only 1 event are: ", event1 ^ event2)
print("The students that attended atleast 1 event are: ", event1 | event2)
```

```
abhigyandutta@master-H110M-S2PH:~/week6$ python3 Q1.py
The students that attended both the events are:  {'Charlie', 'Bob', 'Eva'}
The students that attended only 1 event are:  {'Naman', 'Anaya', 'Grace', 'Adity
a'}
The students that attended atleast 1 event are:  {'Naman', 'Aditya', 'Charlie',
'Bob', 'Anaya', 'Grace', 'Eva'}
```

Q2.

```
students = {"Rohan": 85,"Spoorthi": 90,"Aditi": 78,"Tanya": 92}
print("Q2. Student Marks Calculation:")
print("Student with the highest marks: ", max(students, key=students.get))
print("Averge Marks: ", sum(students.values())/len(students))
newstud="Ajith" ; newmark = 91 ; students[newstud] = newmark
print("Updated List: ", students)
```

```
abhigyandutta@master-H110M-S2PH:~/week6$ python3 Q2.py
Q2. Student Marks Calculation:
Student with the highest marks:  Tanya
Averge Marks:  86.25
Updated List:  {'Rohan': 85, 'Spoorthi': 90, 'Aditi': 78, 'Tanya': 92, 'Ajith':
91}
```

Q3.

```python
print("Q3. Sentence Analysis: ")
sentence = input("Enter a sentence: ")
vowels = "AEIOUaeiou"
vowelcount = 0
consonantcount = 0
words = sentence.split()
longestword = ""

for char in sentence:
    if char.isalpha():  # Letter check with alpha :~)
        if char in vowels:
            vowelcount += 1
        else:
            consonantcount += 1

for word in words:
    if len(word) > len(longestword):
        longestword = word

reversesentence = sentence[::-1]
print(f"Vowel count: {vowelcount}")
print(f"Consonant count: {consonantcount}")
print(f"Longest word: {longestword}")
print(f"Reversed sentence: {reversesentence}")
```

```
abhigyandutta@master-H110M-S2PH:~/week6$ python3 Q3.py
Q3. Sentence Analysis:
Enter a sentence: Hello, let's bake a cake.
Vowel count: 8
Consonant count: 10
Longest word: Hello,
Reversed sentence: .ekac a ekab s'tel ,olleH
```

Q4.

```python
ints = [5,6,3,8,2,9,7,5,3,6,7,6,4,3,2]
counter = {}
for i in ints:
        if i in counter:
                counter[i] += 1
        else:
                counter[i] = 1
l = [(freq,number) for number,freq in counter.items()]
l.sort()
sorted = []
for i in l:
        for j in range(i[0]):
                sorted.append(i[1])
print(sorted)
```

Q5.

```
print("Q5. Shopping List:")
list1 = [("apple", 2), ("banana", 1), ("orange", 3)]
list2 = [("banana", 2), ("grape", 4), ("pear", 2)]
list3 = [("apple", 3), ("grape", 3), ("watermelon", 5)]
flist = {}
print("A Bought", list1); print("B Bought", list2), print("C Bought", list3)

for shoplist in [list1, list2, list3]:
    for item, qty in shoplist:
        if item in flist:
            flist[item] += qty
        else:
            flist[item] = qty

print("Final shopping list : ")
print(flist)
total = sum(flist.values())
```

```
abhigyandutta@master-H110M-S2PH:~/week6$ python3 Q5b.py
Q5. Shopping List:
A Bought [('apple', 2), ('banana', 1), ('orange', 3)]
B Bought [('banana', 2), ('grape', 4), ('pear', 2)]
C Bought [('apple', 3), ('grape', 3), ('watermelon', 5)]
Final shopping list :
{'apple': 5, 'banana': 3, 'orange': 3, 'grape': 7, 'pear': 2, 'watermelon': 5}
```

6.

```
movie_bookings = {}
num_bookings = int(input("Enter the number of bookings: "))

for _ in range(num_bookings):
    booking = input("Enter booking (CustomerName-MovieName-SeatNumber): ")
    customer_name, movie_name, seat_number = booking.split("-")

    if movie_name not in movie_bookings:
        movie_bookings[movie_name] = {}

    if seat_number in movie_bookings[movie_name]:
        print(f"Duplicate booking detected! Seat {seat_number} for movie {movie_name} is already booked by {movie_bookings[movie_name]
[seat_number]}.")
        print(f"Booking request by {customer_name} is rejected.")
    else:
        movie_bookings[movie_name][seat_number] = customer_name
        print(f"Booking confirmed for {customer_name} in movie {movie_name}, seat {seat_number}.")

print("\nFinal bookings:")
for movie, seats in movie_bookings.items():
    print(f"Movie: {movie}")
    for seat, customer in seats.items():
        print(f"  Seat: {seat} > Customer: {customer}")

print(movie_bookings)
```

```
abhigyandutta@master-H110M-S2PH:~/week6$ python3 Q6.py
Enter the number of bookings: 3
Enter booking (CustomerName-MovieName-SeatNumber): q-i-1
Booking confirmed for q in movie i, seat 1.
Enter booking (CustomerName-MovieName-SeatNumber): a-i-2
Booking confirmed for a in movie i, seat 2.
Enter booking (CustomerName-MovieName-SeatNumber): b-i-1
Duplicate booking detected! Seat 1 for movie i is already booked by q.
Booking request by b is rejected.

Final bookings:
Movie: i
  Seat: 1 > Customer: q
  Seat: 2 > Customer: a
{'i': {'1': 'q', '2': 'a'}}
{'1': 'q', '2': 'a'}
```

Q7.

```
string = input("Enter a string: ")
counter = {}
for i in string:
        if i in counter:
                counter[i] += 1
        else:
                counter[i] = 1
for i in string:
  if counter[i] == 1:
    print(i)
    break
else:
  print("No unique character")
print(counter)
```

Q8.

```
print("Q8. repeating chars")
input_str = input("Enter a string: ")
char_count = {}

for char in input_str:
    if char in char_count:
        char_count[char] += 1
    else:
        char_count[char] = 1

for char in input_str:
    if char_count[char] == 1:
        print(f"{char} is not repeated.")
    else:
        print(f"{char} is repeated {char_count[char]} times.")
```

```
abhigyandutta@master-H110M-S2PH:~/week6$ python3 Q8.py
Q8. repeating chars
Enter a string: abababtrjsdbs
a is repeated 3 times.
b is repeated 4 times.
a is repeated 3 times.
b is repeated 4 times.
a is repeated 3 times.
b is repeated 4 times.
t is not repeated.
r is not repeated.
j is not repeated.
s is repeated 2 times.
d is not repeated.
b is repeated 4 times.
s is repeated 2 times.
```