Exercise 1: Create a function with a default argument

Write a program to create a function `show_employee()` using the following conditions.

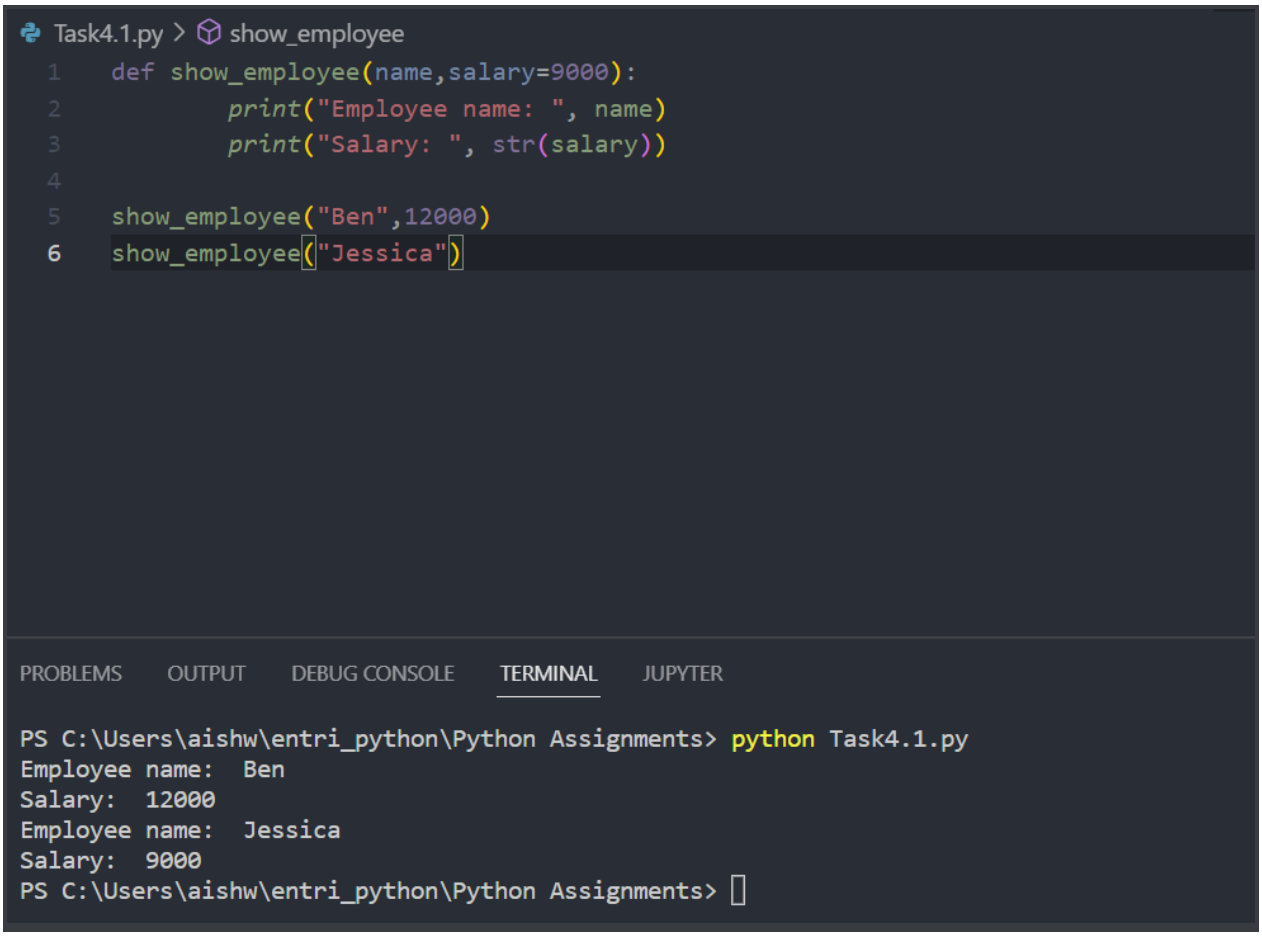
- It should accept the employee's name and salary and display both.
- If the salary is missing in the function call then assign default value 9000 to salary

Given:

```
showEmployee("Ben", 12000)
showEmployee("Jessa")
```

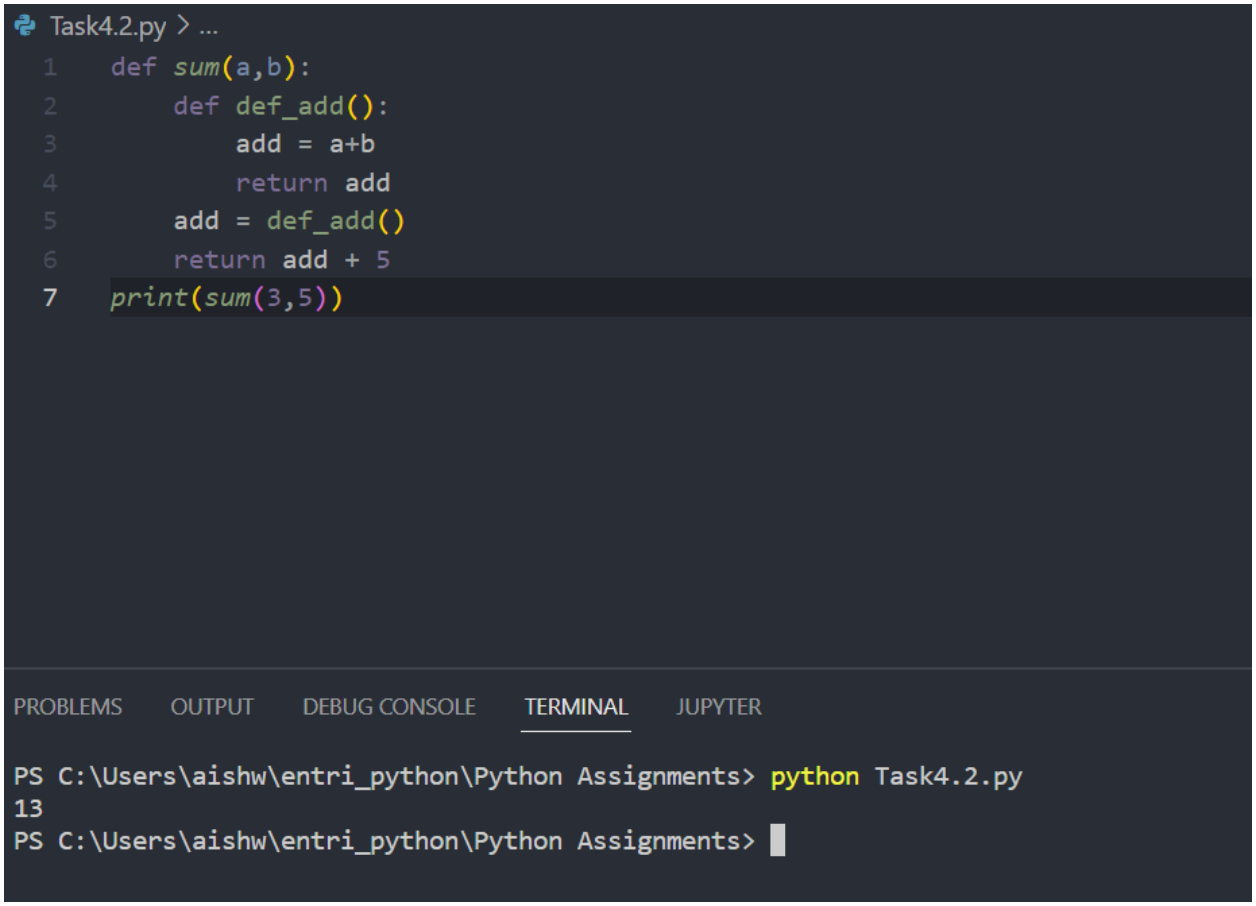
Expected output:

```
Name: Ben salary: 12000
Name: Jessa salary: 9000
```

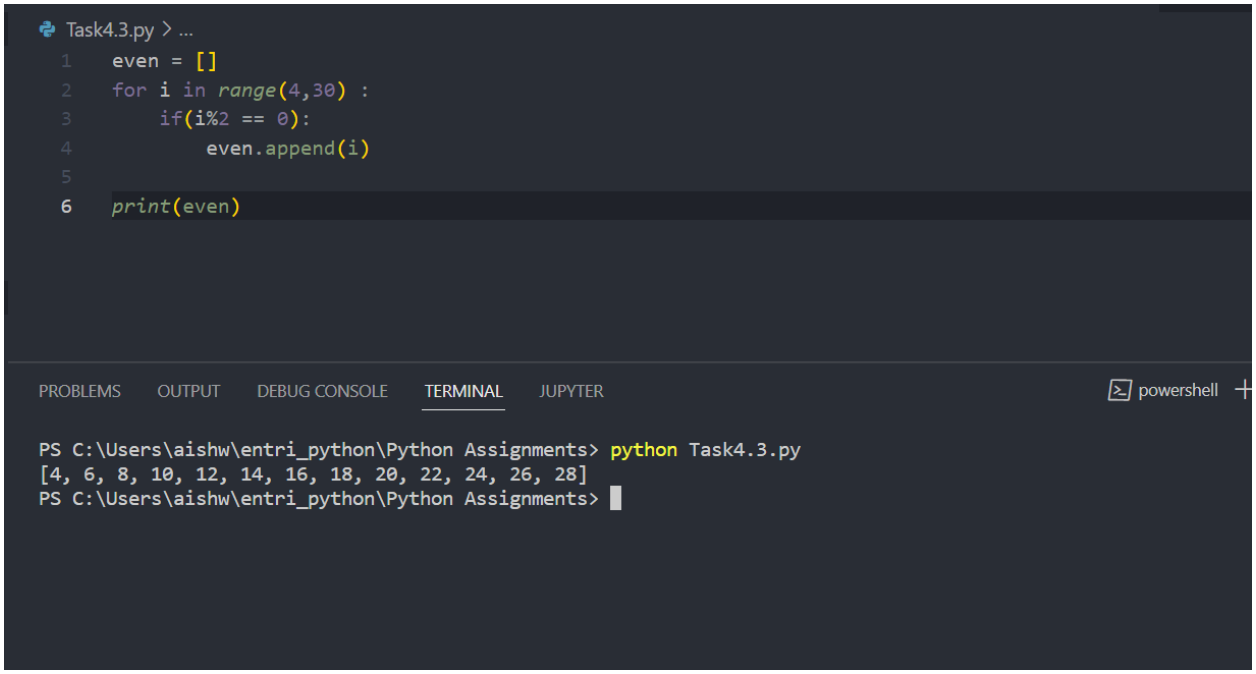


Exercise 2: Create an inner function to calculate the addition in the following way

- Create an outer function that will accept two parameters, `a` and `b`
- Create an inner function inside an outer function that will calculate the addition of `a` and `b`
- At last, an outer function will add 5 into addition and return it



Exercise 3: Generate a Python list of all the even numbers between 4 to 30



Exercise 4: Lambda Function to Check if value is in a List

Given a list, the task is to write a Python program to check if the value exists in the list or not using the lambda function.

Input : L = [1, 2, 3, 4, 5]
element = 4
Output : Element is Present in the list

Input : L = [1, 2, 3, 4, 5]
element = 8
Output : Element is NOT Present in the list

Task4.4.py > ...

```python
lists = [2,3,5,2,4,44]
ele = 6
x = lambda L , ele : True if ele in L else False
if (x(lists , ele)) :
    print("Present")
else :
    print("Not present")

```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL JUPYTER

```
PS C:\Users\aishw\entri_python\Python Assignments> python Task4.3.py
[4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28]
PS C:\Users\aishw\entri_python\Python Assignments> python Task4.3.py
[4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28]
PS C:\Users\aishw\entri_python\Python Assignments> python Task4.4.py
Present
PS C:\Users\aishw\entri_python\Python Assignments> python Task4.4.py
Not present
PS C:\Users\aishw\entri_python\Python Assignments>
```

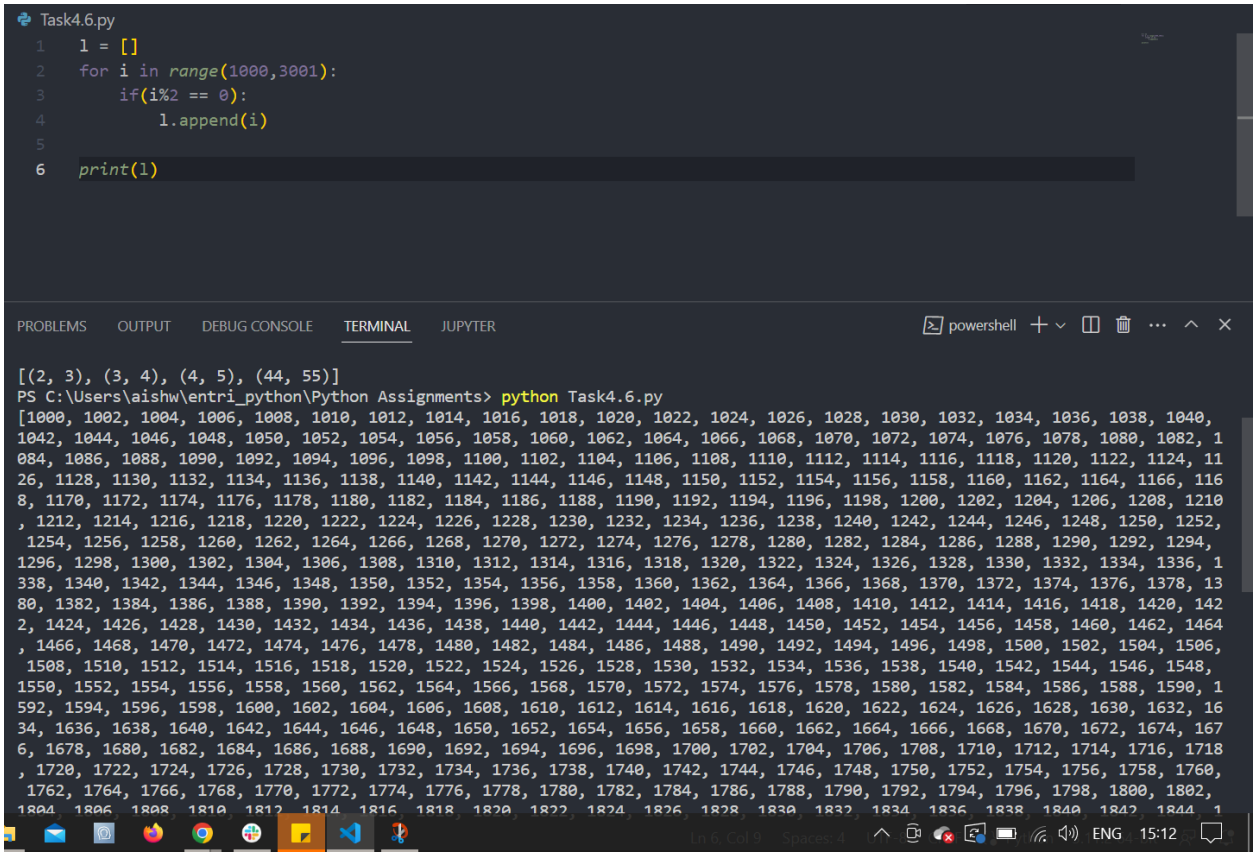
Exercise 5: Sort list of tuples with their sum

Sort the points based on their sum of elements in the tuples

points = [(1, 2), (5, 3), (0, 7), (3, 1)]

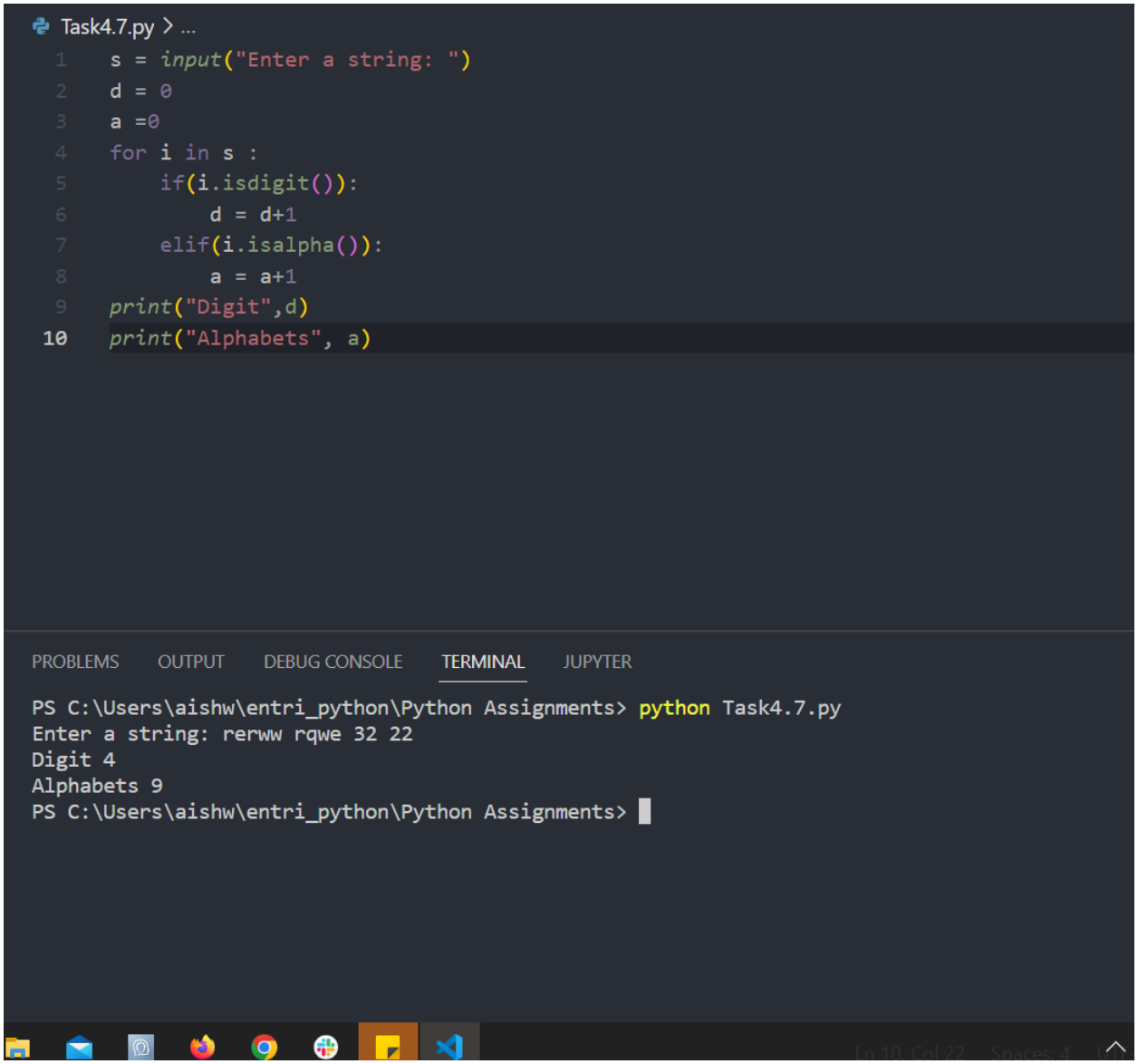
Exercise 6 :

Write a python function, which will find all such numbers between 1000 and 3000 (both included) such that each digit of the number is an even number. Return the results as a list



Exercise 7 :

Write a python function that accepts a sentence and calculate and return the number of letters and digits.
Suppose the following input is supplied to the program:
hello world! 123
Then, the output should be:
LETTERS 10
DIGITS 3



Exercise 8 MAP:

Write a Python program to convert all the characters into uppercase and lowercase and eliminate duplicate letters from a given sequence. Use the map() function

Task4.8.py > ...

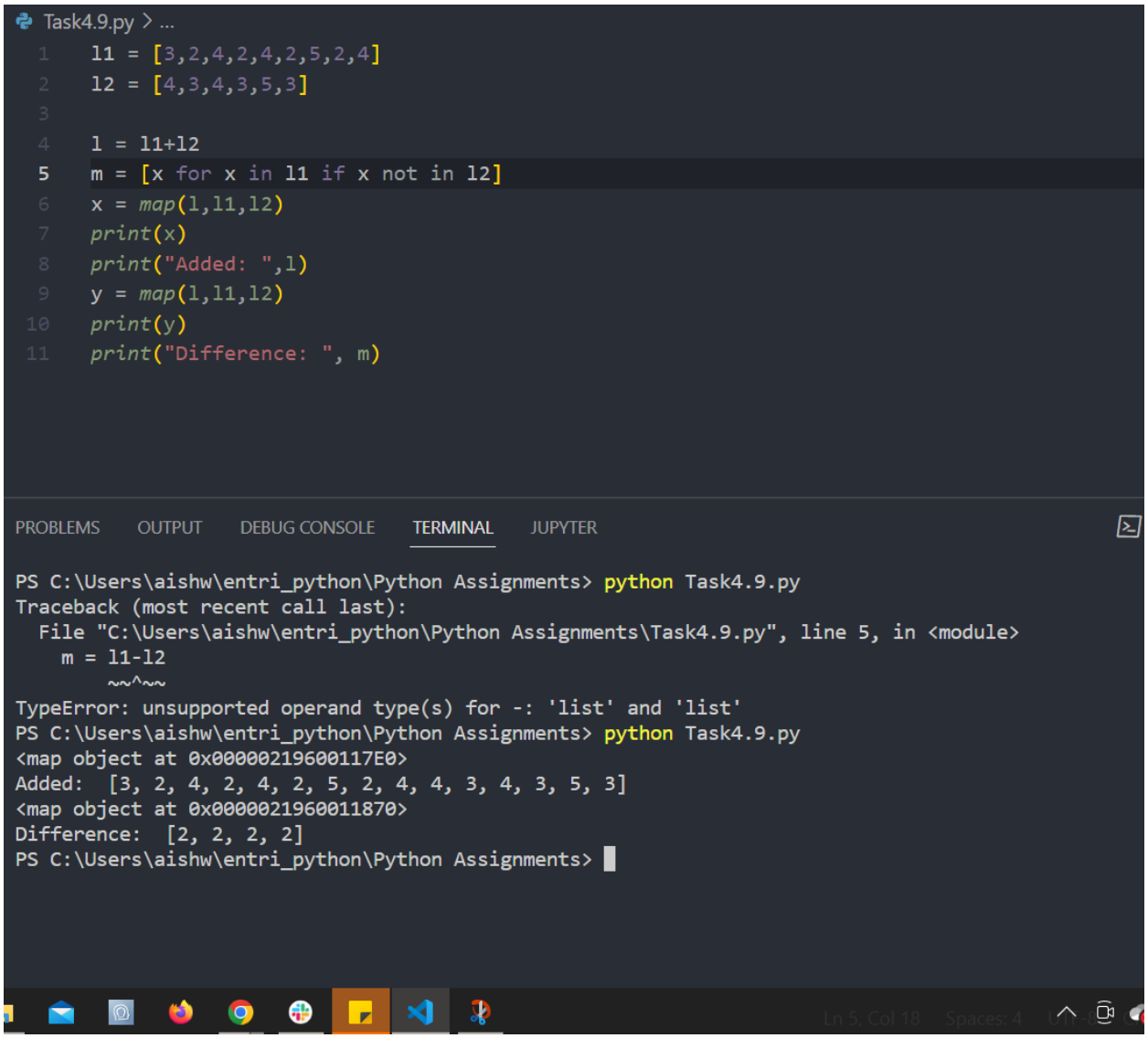
```python
s = input("Enter a string: ")

u = set(s.upper())
l = set(s.lower())
print("Upper :", u)
print("Lower :", l)
res = map(u,s)
res2 = map(l,s)
print(res)
print(res2)
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL JUPYTER powershell

```
PS C:\Users\aishw\entri_python\Python Assignments> python Task4.8.py
Enter a string: Hello Good Morning
Upper : {'E', ' ', 'M', 'H', 'G', 'N', 'R', 'I', 'O', 'D', 'L'}
Lower : {'h', 'n', ' ', 'r', 'l', 'i', 'g', 'm', 'd', 'e', 'o'}
<map object at 0x000002B709591750>
<map object at 0x000002B7095917B0>
PS C:\Users\aishw\entri_python\Python Assignments>
```

Exercise 9 MAP:

Write a Python program to add two given lists and find the difference between them. Use the map() function.



Exercise 10 Filter:

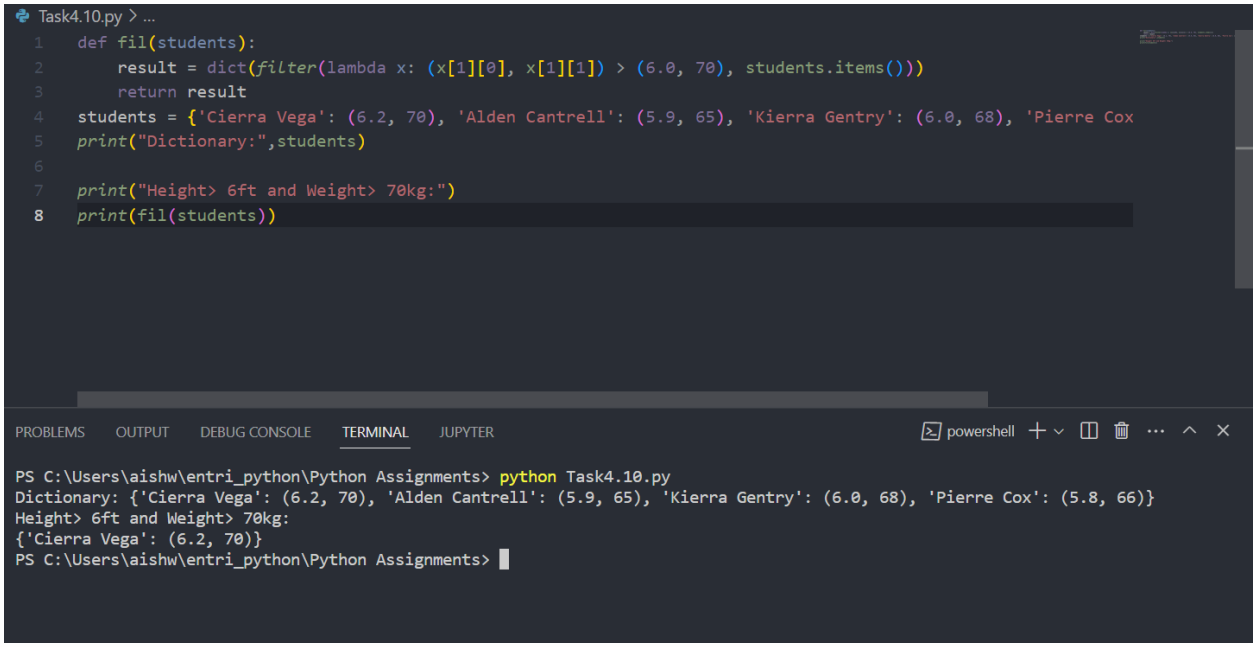
Write a Python program to filter the height and weight of students, which are stored in a dictionary using lambda.

Original Dictionary:

{'Cierra Vega': (6.2, 71), 'Alden Cantrell': (5.9, 65), 'Kierra Gentry': (6.0, 68), 'Pierre Cox': (5.8, 66)}

Height> 6ft and Weight> 70kg:

{'Cierra Vega': (6.2, 71)}



Exercise 11 Filter:

Write a Python program to remove all elements from a given list present in another list using lambda.

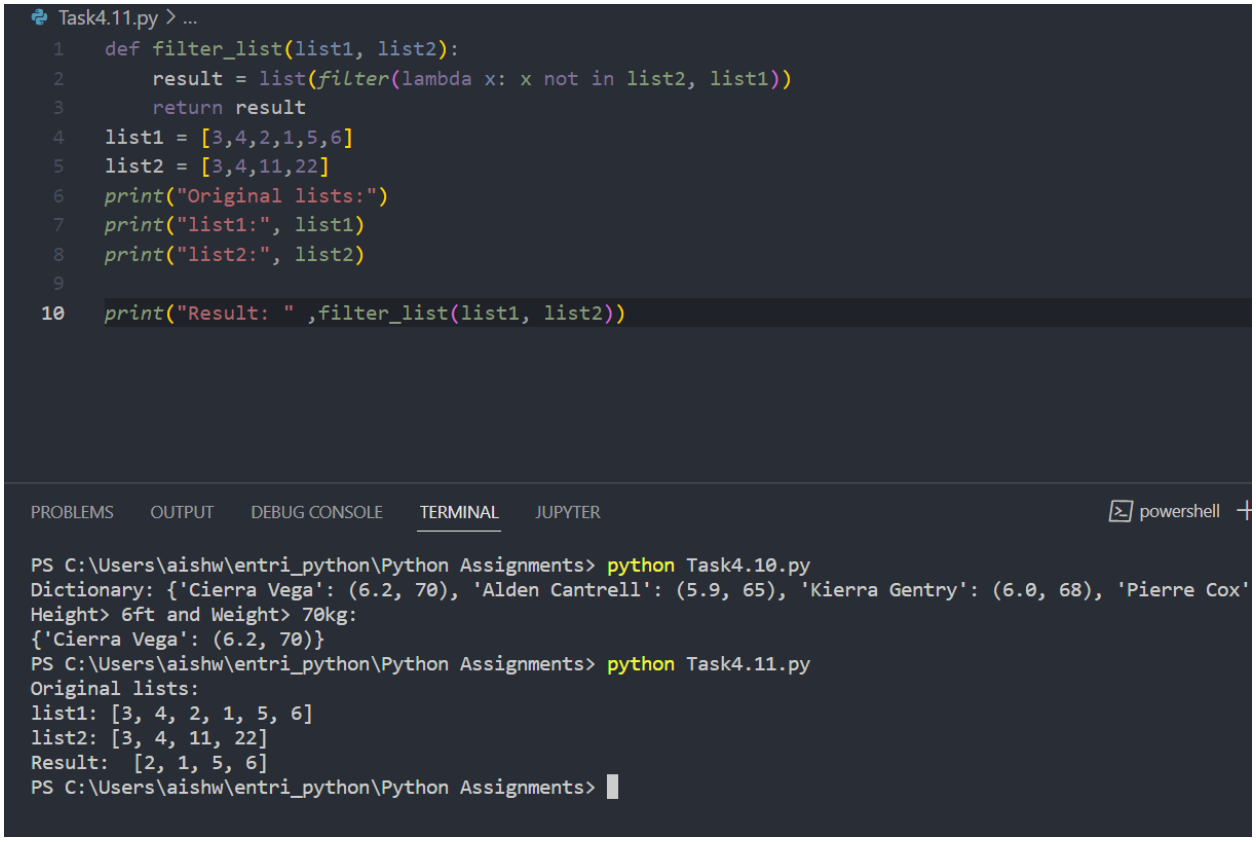
Original lists:

list1: [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]

list2: [2, 4, 6, 8]

Remove all elements from 'list1' present in 'list2:

[1, 3, 5, 7, 9, 10]



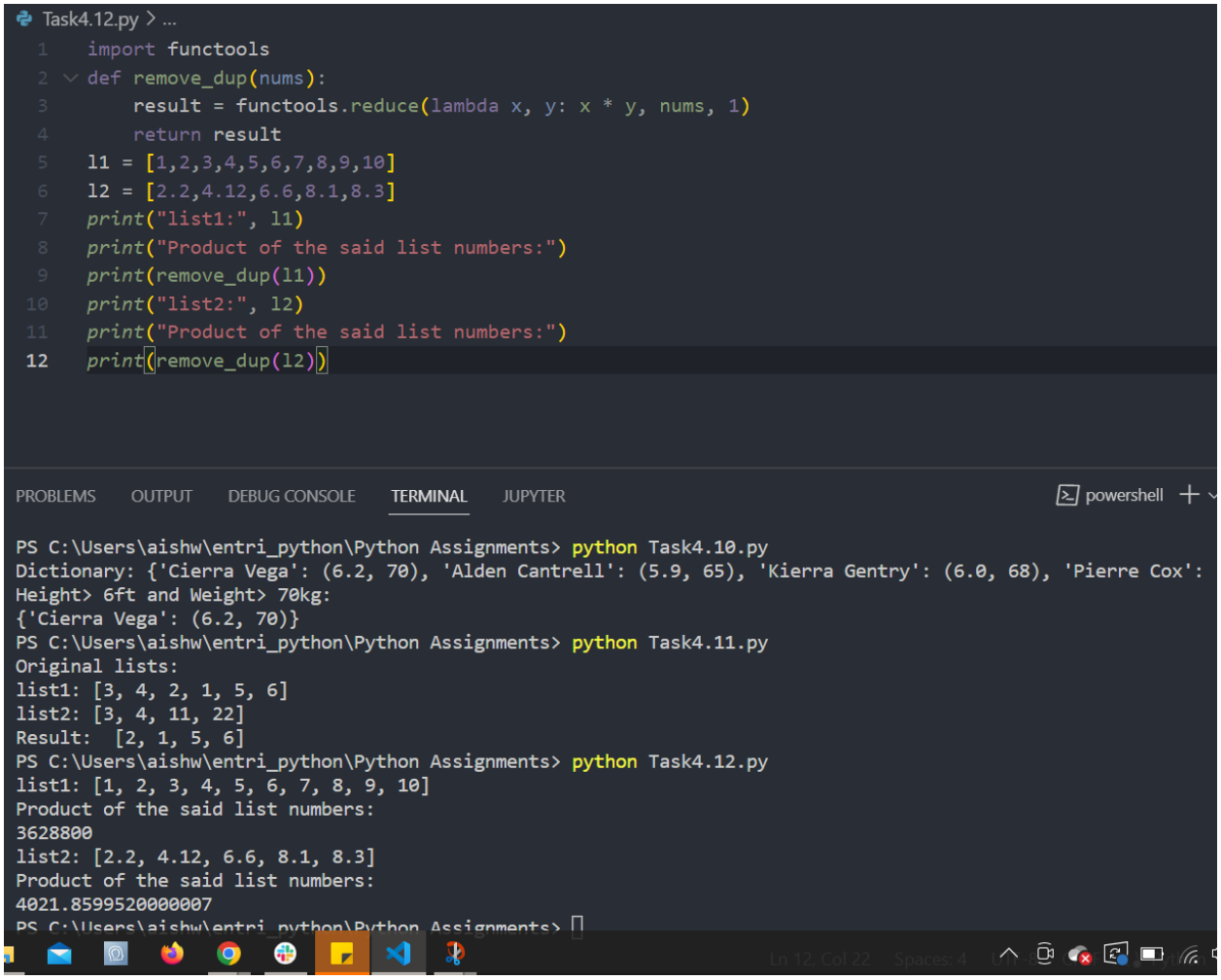
Exercise 12 Reduce:

Write a Python program to calculate the product of a given list of numbers using lambda.

list1: [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]

Product of the said list numbers:

3628800



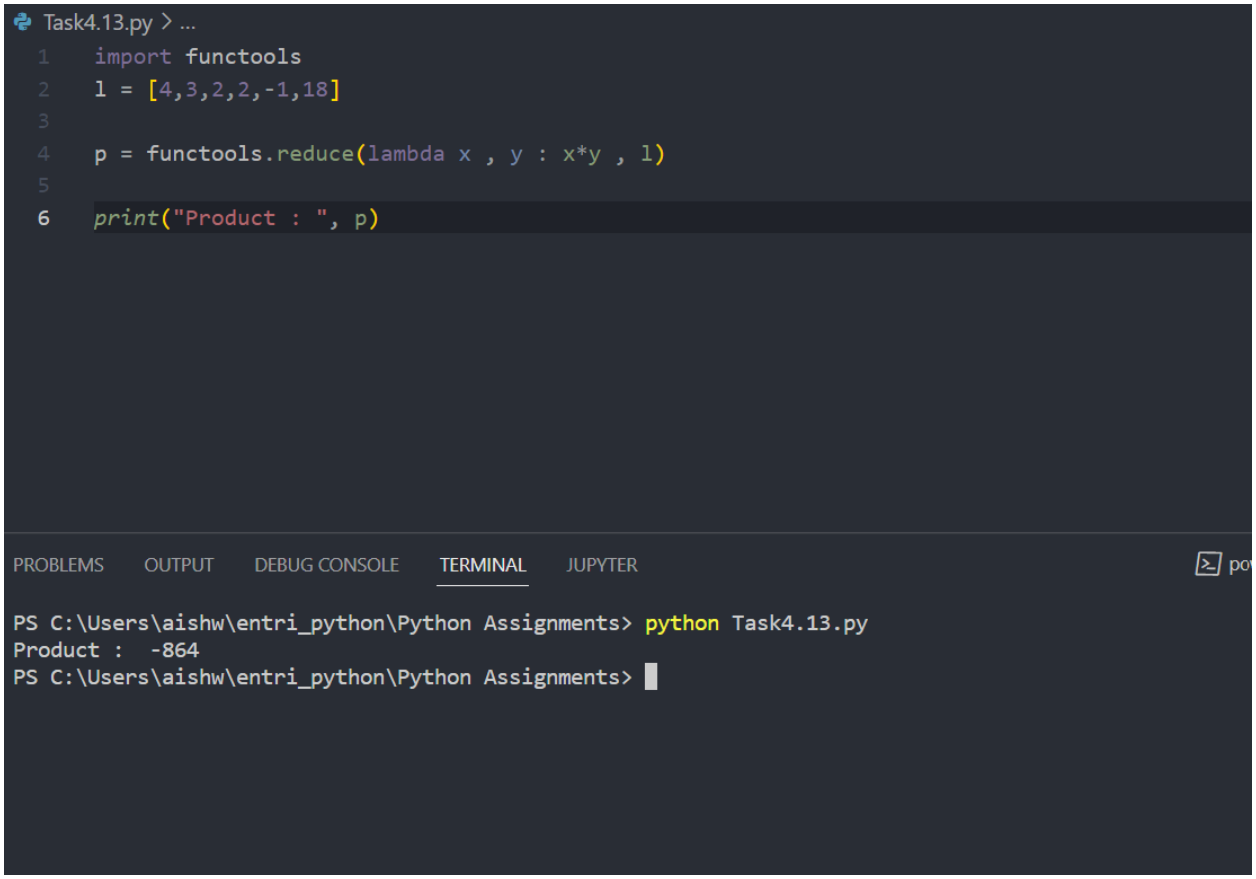
Exercise 13 Reduce:

Write a Python program to multiply all the numbers in a given list using lambda.

Original list:

[4, 3, 2, 2, -1, 18]

Multiply all the numbers of the said list: -864



Exercise 14 Reduce:

Write a Python program to calculate the average value of the numbers in a given tuple of tuples using lambda.

Original Tuple:

((10, 10, 10), (30, 45, 56), (81, 80, 39), (1, 2, 3))

Average value of the numbers of the said tuple of tuples:

(30.5, 34.25, 27.0)

Exercise 15:

Write a Python program to sort a given mixed list of integers and strings using lambda. Numbers must be sorted before strings.

Original list:

[19, 'red', 12, 'green', 'blue', 10, 'white', 'green', 1]

Sort the said mixed list of integers and strings:

[1, 10, 12, 19, 'blue', 'green', 'green', 'red', 'white']

Exercise 16:

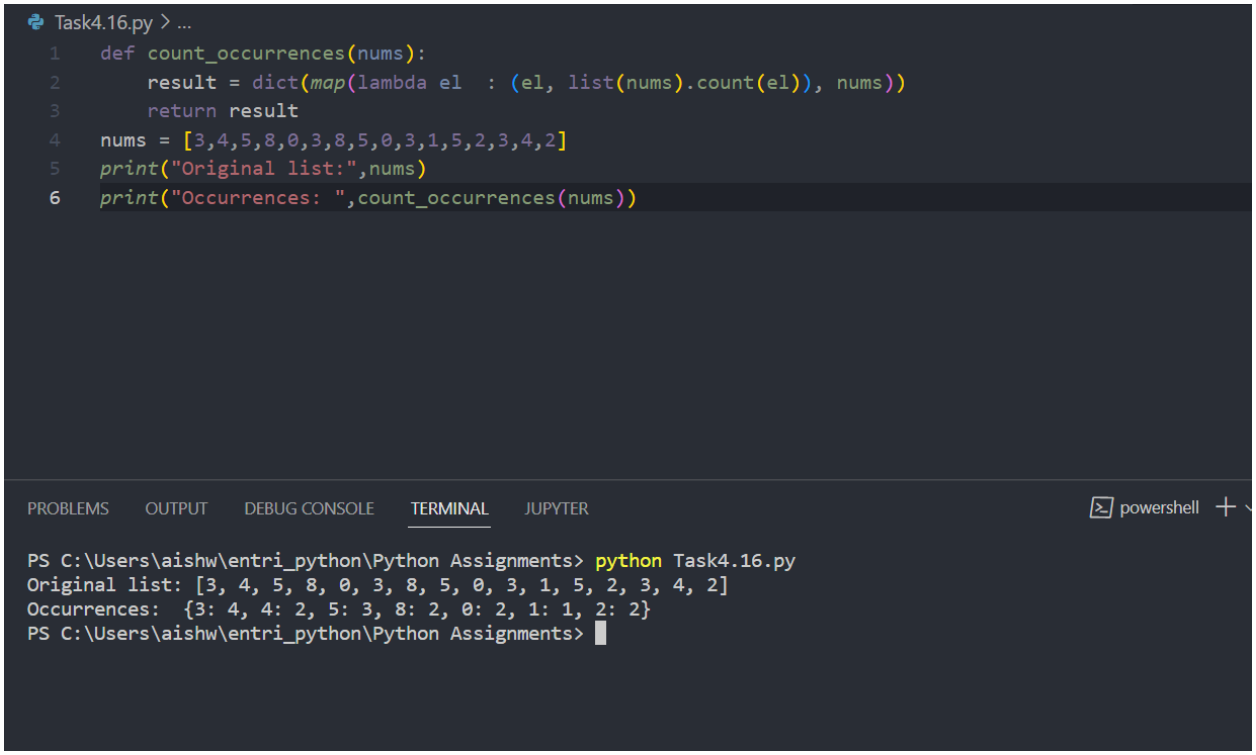
Write a Python program to count the occurrences of items in a given list using lambda.

Original list:

[3, 4, 5, 8, 0, 3, 8, 5, 0, 3, 1, 5, 2, 3, 4, 2]

Count the occurrences of the items in the said list:

{3: 4, 4: 2, 5: 3, 8: 2, 0: 2, 1: 1, 2: 2}



Exercise 17:

Write a Python program to remove None values from a given list using the lambda function.

Original list:

[12, 0, None, 23, None, -55, 234, 89, None, 0, 6, -12]

Remove None value from the said list:

[12, 0, 23, -55, 234, 89, 0, 6, -12]