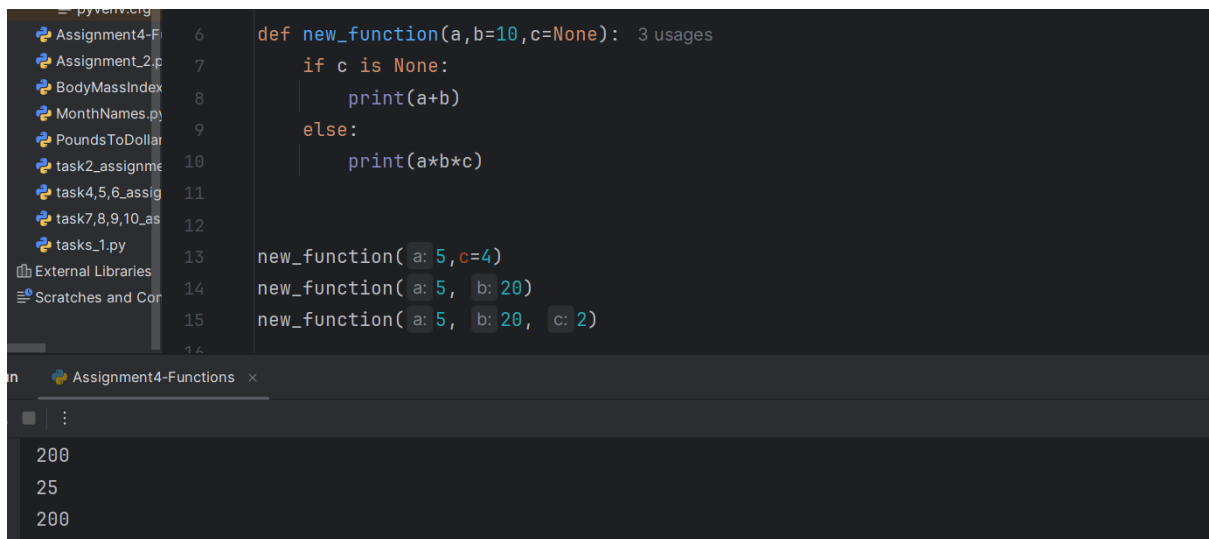


Tasks and Results

Exercise 1:

Create a function that takes in three arguments, two of which are optional. The first argument should be a required positional argument, the second argument should be a keyword argument with a default value of 10, and the third argument should be a keyword argument with a default value of None. The function should print the sum of the first two arguments if the third argument is None, and print the product of all three arguments if the third argument is not None.



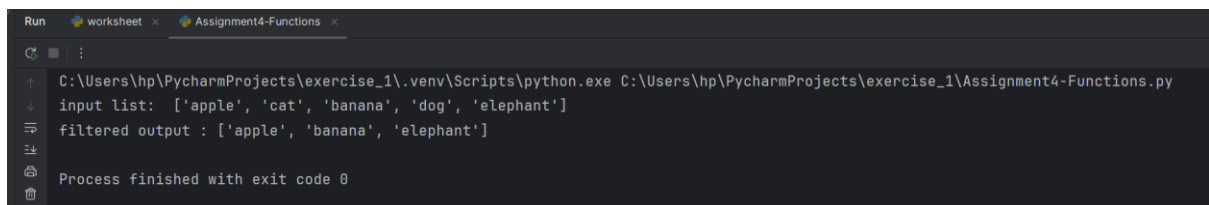
```
def new_function(a,b=10,c=None):
    if c is None:
        print(a+b)
    else:
        print(a*b*c)

new_function(a: 5,c=4)
new_function(a: 5, b: 20)
new_function(a: 5, b: 20, c: 2)
```

200
25
200

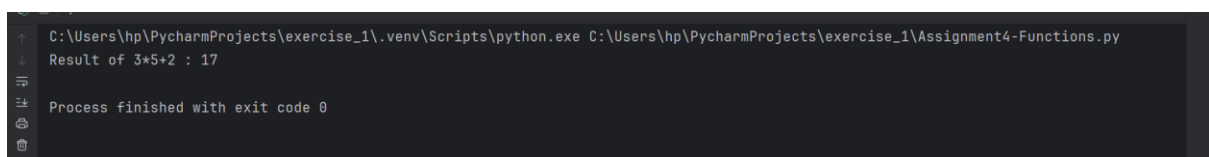
Exercise 2:

Write a function that takes in a list of strings and returns a new list with only the strings that have a length greater than or equal to 5.



```
C:\Users\hp\PycharmProjects\exercise_1\.venv\Scripts\python.exe C:\Users\hp\PycharmProjects\exercise_1\Assignment4-Functions.py
input list: ['apple', 'cat', 'banana', 'dog', 'elephant']
filtered output : ['apple', 'banana', 'elephant']
Process finished with exit code 0
```

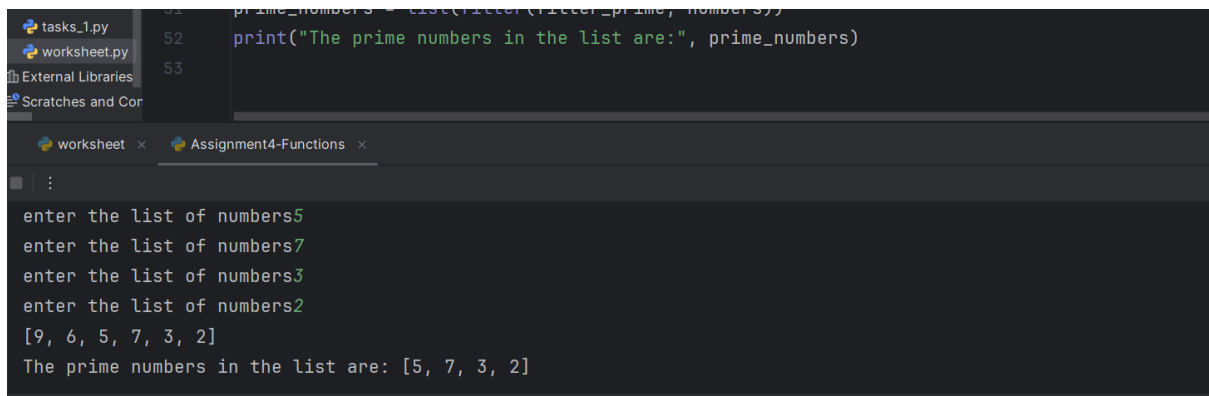
Exercise 3: Write a Python program to evaluate a given mathematical expression using the eval() function. expression = "3 * 5 + 2"



```
C:\Users\hp\PycharmProjects\exercise_1\.venv\Scripts\python.exe C:\Users\hp\PycharmProjects\exercise_1\Assignment4-Functions.py
Result of 3*5+2 : 17
Process finished with exit code 0
```

Exercise 4:

Write a Python program to filter out the prime numbers from a given list of integers using the filter() function.



The screenshot shows a Python IDE with a file explorer on the left containing 'tasks_1.py', 'worksheet.py', 'External Libraries', and 'Scratches and Cor'. The main editor window has two tabs: 'worksheet' and 'Assignment4-Functions'. The 'Assignment4-Functions' tab is active and contains the following code:

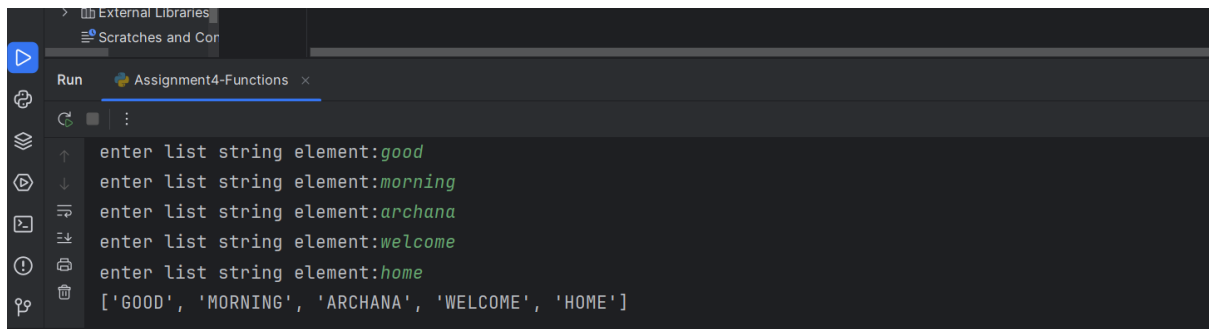
```
prime_numbers = list(filter(filter_prime, numbers))
print("The prime numbers in the list are:", prime_numbers)
```

The 'worksheet' tab is also visible and shows the following output:

```
enter the list of numbers5
enter the list of numbers7
enter the list of numbers3
enter the list of numbers2
[9, 6, 5, 7, 3, 2]
The prime numbers in the list are: [5, 7, 3, 2]
```

Exercise 5:

Write a Python program to convert a list of strings to uppercase using the map() function.



The screenshot shows a Python IDE with a file explorer on the left containing 'External Libraries' and 'Scratches and Cor'. The main editor window has a tab titled 'Run' with a sub-tab 'Assignment4-Functions'. The 'Assignment4-Functions' sub-tab is active and shows the following output:

```
enter list string element:good
enter list string element:morning
enter list string element:archana
enter list string element:welcome
enter list string element:home
['GOOD', 'MORNING', 'ARCHANA', 'WELCOME', 'HOME']
```