

Week 2-3 Assignment

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Assignment 3: Conditions and loops

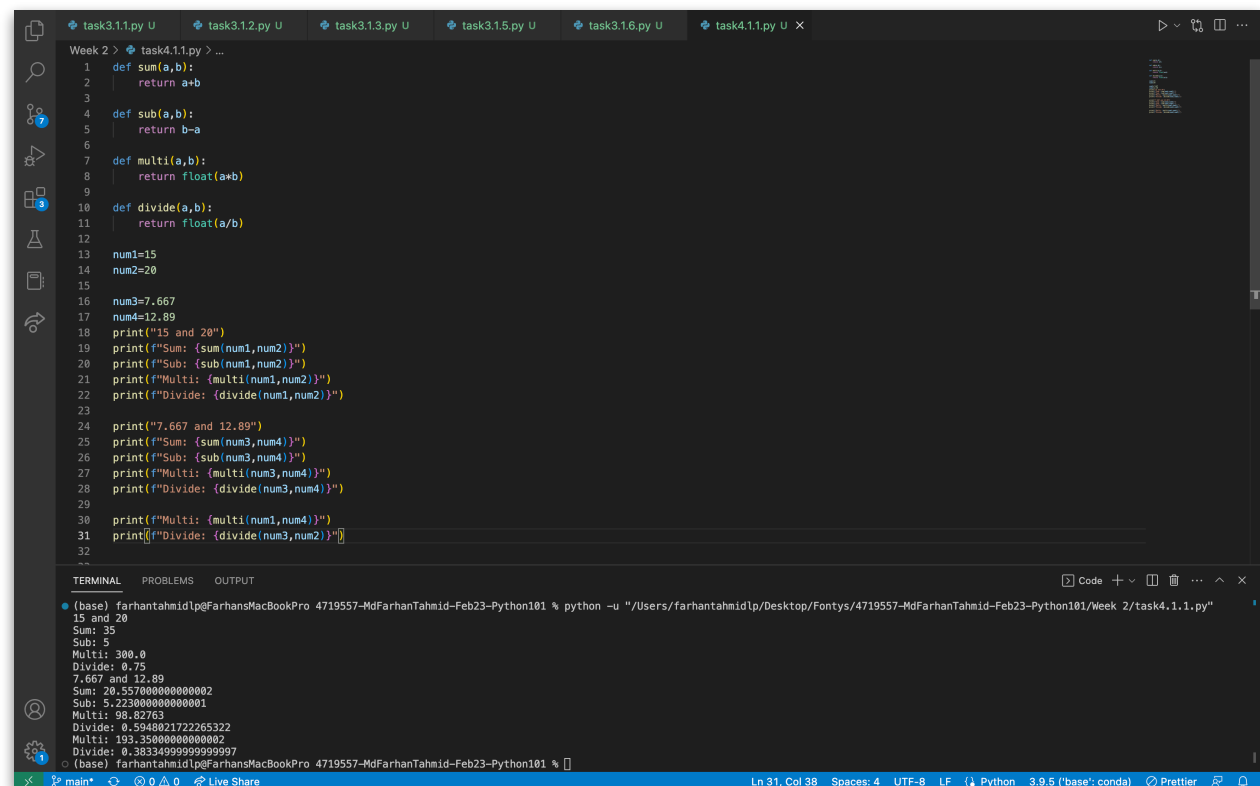
Task 3.1.1 - 3.1.6

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Assignment 4: Functions

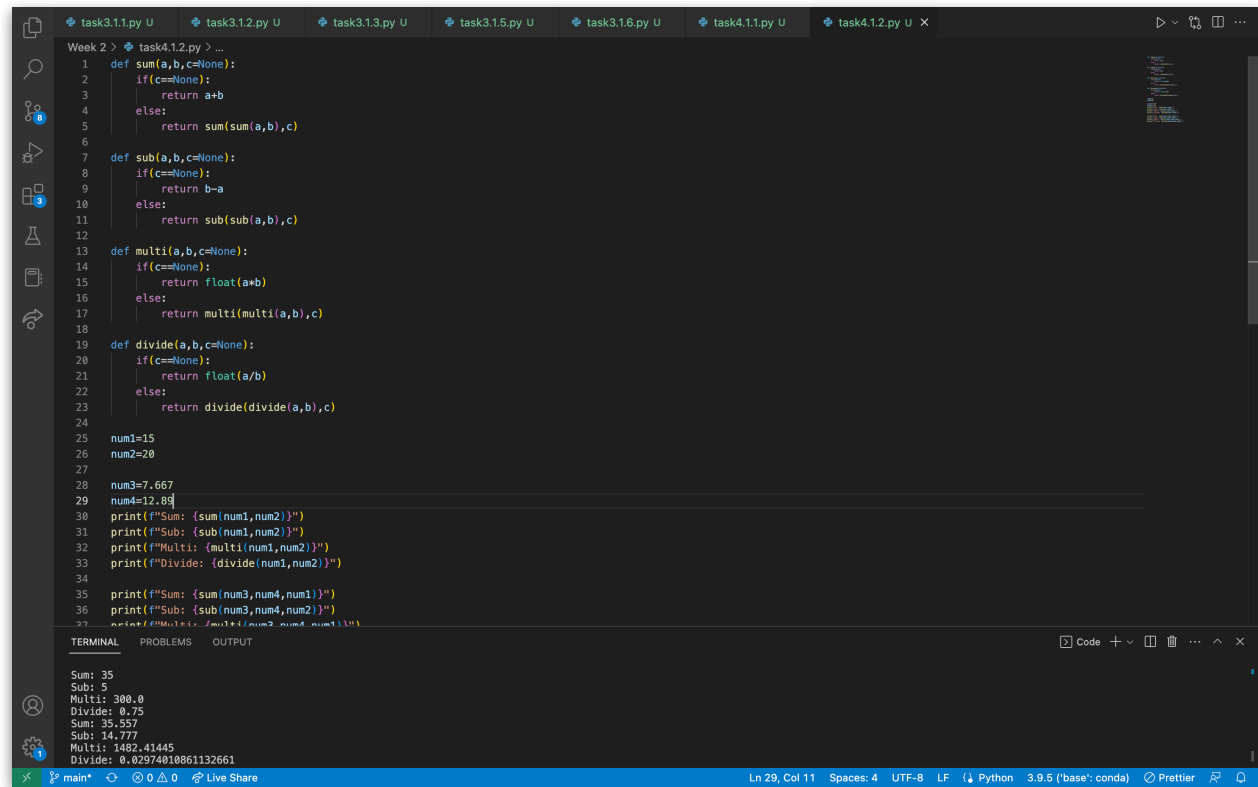
Task 4.1

4.1.1.



```
task3.1.1.py U task3.1.2.py U task3.1.3.py U task3.1.5.py U task3.1.6.py U task4.1.1.py U X
Week 2 > task4.1.1.py > ...
1 def sum(a,b):
2     return a+b
3
4 def sub(a,b):
5     return b-a
6
7 def multi(a,b):
8     return float(a*b)
9
10 def divide(a,b):
11     return float(a/b)
12
13 num1=15
14 num2=20
15
16 num3=7.667
17 num4=12.89
18 print("15 and 20")
19 print(f"Sum: {sum(num1,num2)}")
20 print(f"Sub: {sub(num1,num2)}")
21 print(f"Multi: {multi(num1,num2)}")
22 print(f"Divide: {divide(num1,num2)}")
23
24 print("7.667 and 12.89")
25 print(f"Sum: {sum(num3,num4)}")
26 print(f"Sub: {sub(num3,num4)}")
27 print(f"Multi: {multi(num3,num4)}")
28 print(f"Divide: {divide(num3,num4)}")
29
30 print(f"Multi: {multi(num1,num4)}")
31 print(f"Divide: {divide(num3,num2)}")
32
TERMINAL PROBLEMS OUTPUT
(base) farhantahmidlp@FarhansMacBookPro 4719557-MdFarhanTahmid-Feb23-Python101 % python -u "/Users/farhantahmidlp/Desktop/Fontys/4719557-MdFarhanTahmid-Feb23-Python101/Week 2/task4.1.1.py"
15 and 20
Sum: 35
Sub: 5
Multi: 300.0
Divide: 0.75
7.667 and 12.89
Sum: 20.557000000000002
Sub: 5.223000000000001
Multi: 98.82763
Divide: 0.5948021722265322
Multi: 193.35000000000002
Divide: 0.38334999999999997
(base) farhantahmidlp@FarhansMacBookPro 4719557-MdFarhanTahmid-Feb23-Python101 %
```

4.1.2.



The screenshot shows a VS Code editor with a Python script in a file named `task4.1.2.py`. The script defines four recursive functions: `sum`, `sub`, `multi`, and `divide`. Each function takes three arguments: `a`, `b`, and `c`. If `c` is `None`, the function returns the result of the operation on `a` and `b`. Otherwise, it returns the result of the operation on the result of the function call with `a` and `b`, and `c`. The script also initializes variables `num1=15`, `num2=20`, `num3=7.667`, and `num4=12.89`. It then prints the results of the functions for these values.

```
1 def sum(a,b,c=None):
2     if(c==None):
3         return a+b
4     else:
5         return sum(sum(a,b),c)
6
7 def sub(a,b,c=None):
8     if(c==None):
9         return b-a
10    else:
11        return sub(sub(a,b),c)
12
13 def multi(a,b,c=None):
14     if(c==None):
15         return float(a*b)
16    else:
17        return multi(multi(a,b),c)
18
19 def divide(a,b,c=None):
20     if(c==None):
21         return float(a/b)
22    else:
23        return divide(divide(a,b),c)
24
25 num1=15
26 num2=20
27
28 num3=7.667
29 num4=12.89
30 print(f"Sum: {sum(num1,num2)}")
31 print(f"Sub: {sub(num1,num2)}")
32 print(f"Multi: {multi(num1,num2)}")
33 print(f"Divide: {divide(num1,num2)}")
34
35 print(f"Sum: {sum(num3,num4,num1)}")
36 print(f"Sub: {sub(num3,num4,num2)}")
37 print(f"Multi: {multi(num3,num4,num3)}")
38 print(f"Divide: {divide(num3,num4,num4)}")
```

The terminal output shows the results of the calculations:

```
Sum: 35
Sub: 5
Multi: 300.0
Divide: 0.75
Sum: 35.557
Sub: 14.777
Multi: 1482.41445
Divide: 0.02974010861132661
```

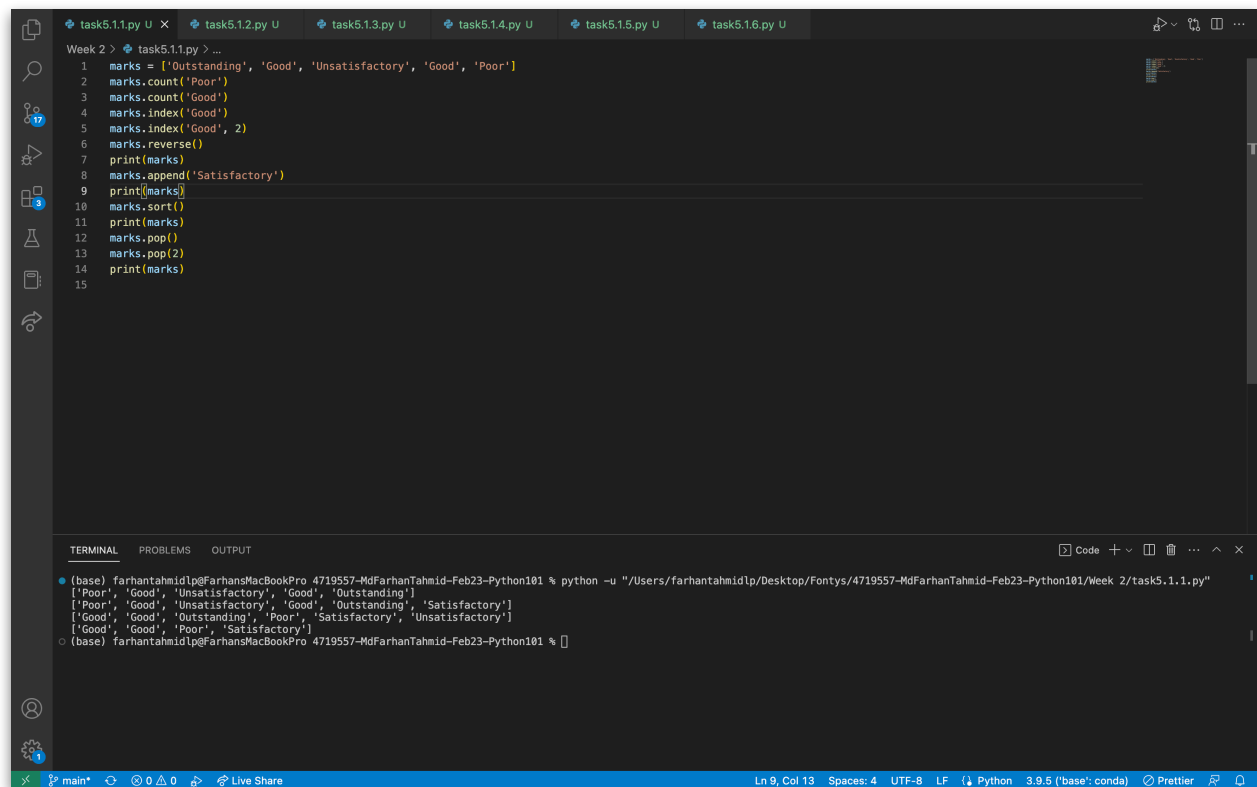
Task 4.2.1 - 4.2.3

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Assignment 5: Data Structure

Task 5.1

5.1.1.



The screenshot shows a VS Code editor with a Python script named `task5.1.1.py` and its terminal output. The script manipulates a list of marks. The terminal output shows the state of the list at each print statement.

```
1 marks = ['Outstanding', 'Good', 'Unsatisfactory', 'Good', 'Poor']
2 marks.count('Poor')
3 marks.count('Good')
4 marks.index('Good')
5 marks.index('Good', 2)
6 marks.reverse()
7 print(marks)
8 marks.append('Satisfactory')
9 print(marks)
10 marks.sort()
11 print(marks)
12 marks.pop()
13 marks.pop(2)
14 print(marks)
15
```

Terminal Output:

```
(base) farhantahmidlp@FarhansMacBookPro 4719557-MdFarhanTahmid-Feb23-Python101 % python -u "/Users/farhantahmidlp/Desktop/Fontys/4719557-MdFarhanTahmid-Feb23-Python101/Week 2/task5.1.1.py"
['Poor', 'Good', 'Unsatisfactory', 'Good', 'Outstanding']
['Poor', 'Good', 'Unsatisfactory', 'Good', 'Outstanding', 'Satisfactory']
['Good', 'Good', 'Outstanding', 'Poor', 'Satisfactory', 'Unsatisfactory']
['Good', 'Good', 'Poor', 'Satisfactory']
['Good', 'Good', 'Poor', 'Satisfactory']
```

Task 5.1.2 - 5.1.6

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