File Edit Selection View Go Run Terminal Help q1.py - Assignment4_Python_21104093 - Visual Studio Code

q1.py

```python
def TowerOfHanoi(disks,source,destination,path):
    if disks==1:
        print("Move disk 1 from source",source,"to destination",destination)
        return
    TowerOfHanoi(int(disks)-1,source,path,destination)
    print("Move disk",disks,"from source",source,"to destination",destination)
    TowerOfHanoi(int(disks)-1,path,destination,source)

#given 3 disks
disks=3
#Let A,B and C are the three rods
TowerOfHanoi(disks,'A','B','C')
```

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE

```
C:\Users\HP\3D Objects\Assignment4_Python_21104093>python -u "c:\Users\HP\3D Objects\Assignment4_Python_21104093\q1.py"
Move disk 1 from source A to destination B
Move disk 2 from source A to destination C
Move disk 1 from source B to destination C
Move disk 3 from source A to destination B
Move disk 1 from source C to destination A
Move disk 2 from source C to destination B
Move disk 1 from source A to destination B

C:\Users\HP\3D Objects\Assignment4_Python_21104093>
```

File Edit Selection View Go Run Terminal Help q2iterative.py - Assignment4_Python_21104093 - Visual Studio Code

q2recursive.py | q2iterative.py

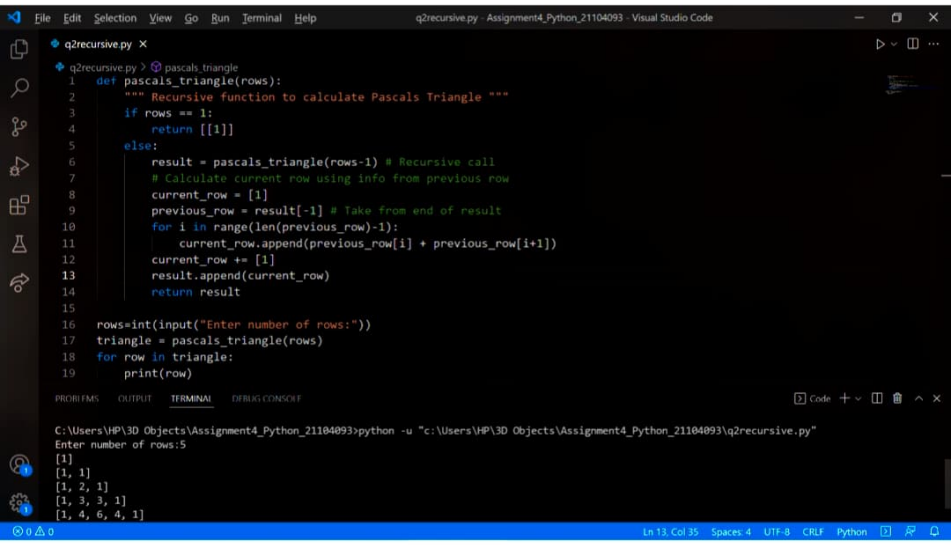
q2iterative.py > i

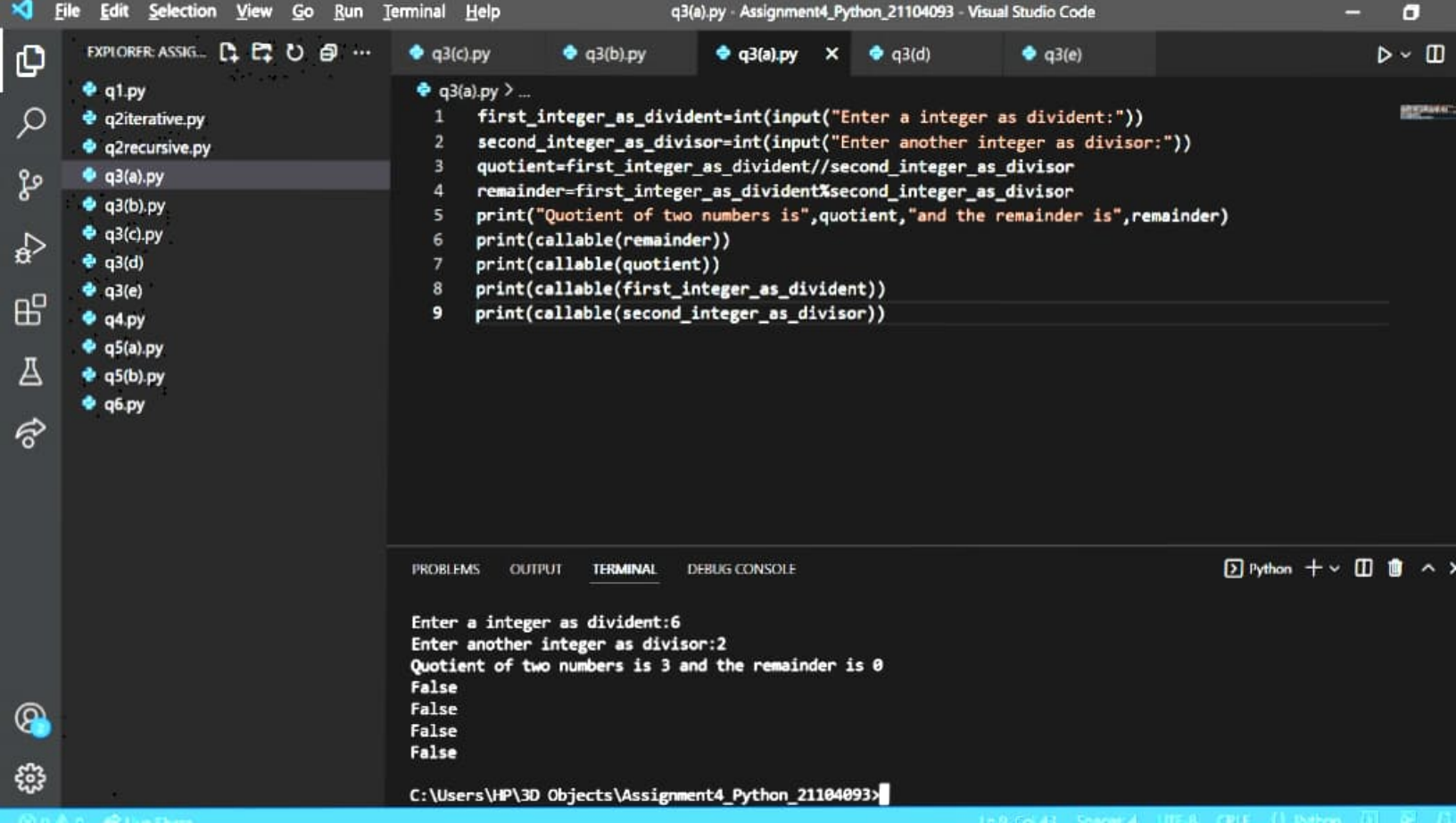
```
""" iterative function to calculate Pascals Triangle """
rows=int(input("Enter number of rows:"))
for i in range(rows):
    print(''*(rows-i),end='')
    print(''.join(map(str,str(11**i))))
```

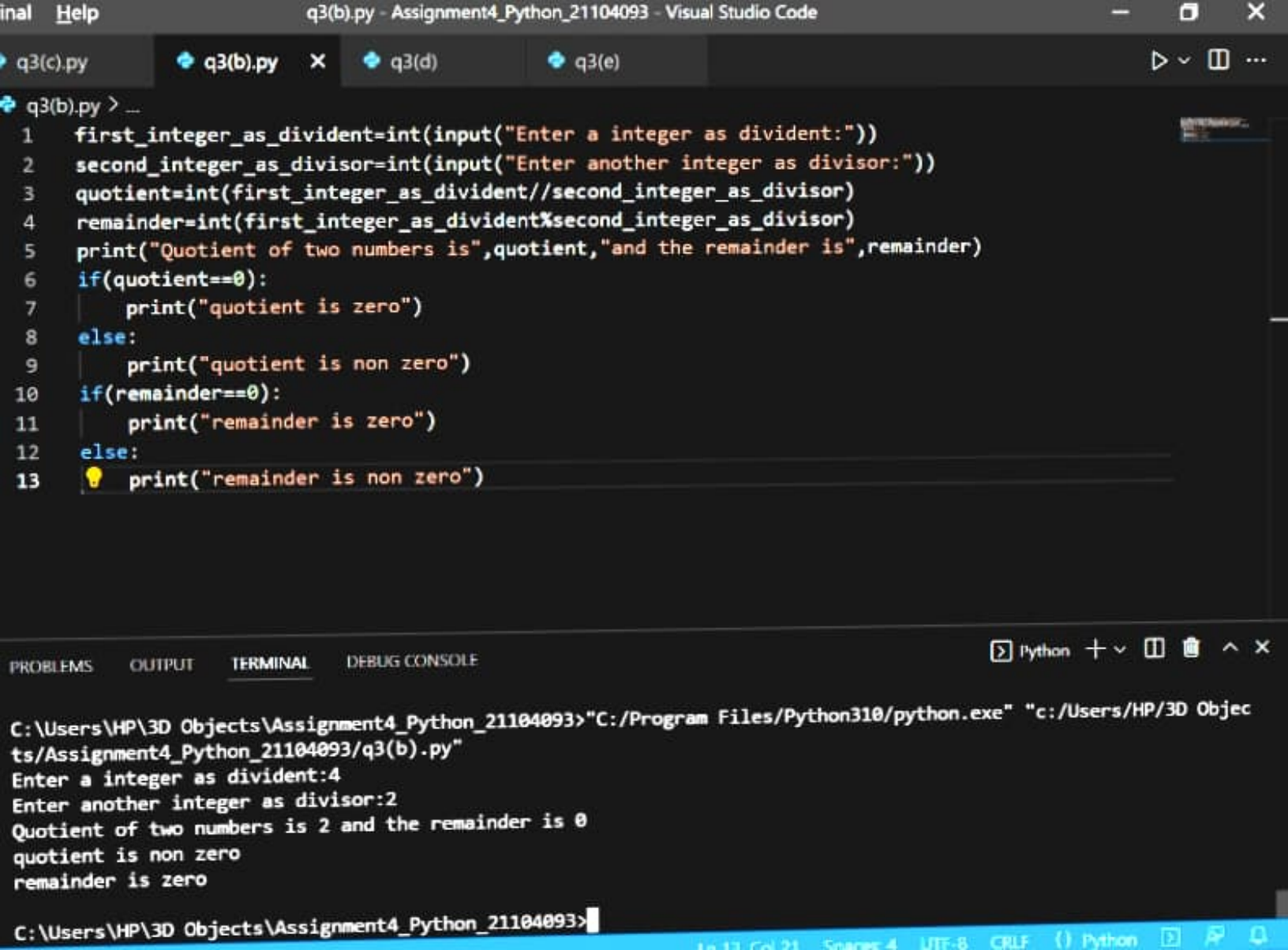
PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE

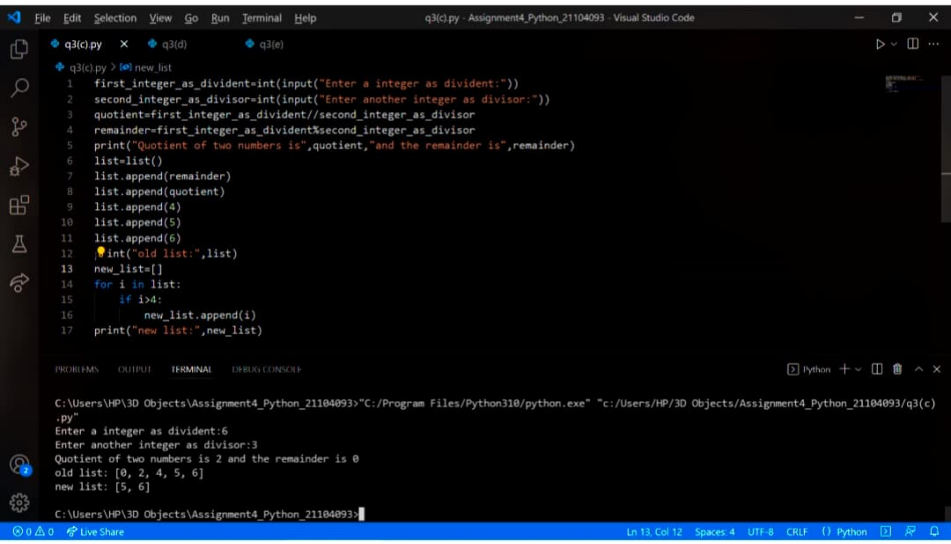
Code

```
C:\Users\HP\3D Objects\Assignment4_Python_21104093>cd "c:\Users\HP\3D Objects\Assignment4_Python_21104093"

C:\Users\HP\3D Objects\Assignment4_Python_21104093>python -u "c:\Users\HP\3D Objects\Assignment4_Python_21104093\q2iterative.py"
Enter number of rows:6
1
11
121
1331
14641
161051

C:\Users\HP\3D Objects\Assignment4_Python_21104093>
```


File Edit Selection View Go Run Terminal Help
q2recursive.py - Assignment4_Python_21104093 - Visual Studio Code
q2recursive.py
q2recursive.py > pascals_triangle
def pascals_triangle(rows):
""" Recursive function to calculate Pascals Triangle """
if rows == 1:
return [[1]]
else:
result = pascals_triangle(rows-1) # Recursive call
# Calculate current row using info from previous row
current_row = [1]
previous_row = result[-1] # Take from end of result
for i in range(len(previous_row)-1):
current_row.append(previous_row[i] + previous_row[i+1])
current_row += [1]
result.append(current_row)
return result
rows=int(input("Enter number of rows:"))
triangle = pascals_triangle(rows)
for row in triangle:
print(row)
PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE
Code
C:\Users\HP\3D Objects\Assignment4_Python_21104093>python -u "c:\Users\HP\3D Objects\Assignment4_Python_21104093\q2recursive.py"
Enter number of rows:5
[1]
[1, 1]
[1, 2, 1]
[1, 3, 3, 1]
[1, 4, 6, 4, 1]
Ln 13, Col 35 Spaces: 4 UTF-8 CRLF Python


File Edit Selection View Go Run Terminal Help
q3(a).py - Assignment4_Python_21104093 - Visual Studio Code
EXPLORER: ASSIG...
q1.py
q2iterative.py
q2recursive.py
q3(a).py
q3(b).py
q3(c).py
q3(d)
q3(e)
q4.py
q5(a).py
q5(b).py
q6.py
q3(c).py
q3(b).py
q3(a).py
q3(d)
q3(e)
q3(a).py > ...
1 first_integer_as_divident=int(input("Enter a integer as divident:"))
2 second_integer_as_divisor=int(input("Enter another integer as divisor:"))
3 quotient=first_integer_as_divident//second_integer_as_divisor
4 remainder=first_integer_as_divident%second_integer_as_divisor
5 print("Quotient of two numbers is",quotient,"and the remainder is",remainder)
6 print(callable(remainder))
7 print(callable(quotient))
8 print(callable(first_integer_as_divident))
9 print(callable(second_integer_as_divisor))
PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE
Python
Enter a integer as divident:6
Enter another integer as divisor:2
Quotient of two numbers is 3 and the remainder is 0
False
False
False
False
C:\Users\HP\3D Objects\Assignment4_Python_21104093>


inal Help
q3(b).py - Assignment4_Python_21104093 - Visual Studio Code
q3(c).py
q3(b).py
q3(d)
q3(e)
q3(b).py > ...
1 first_integer_as_divident=int(input("Enter a integer as divident:"))
2 second_integer_as_divisor=int(input("Enter another integer as divisor:"))
3 quotient=int(first_integer_as_divident//second_integer_as_divisor)
4 remainder=int(first_integer_as_divident%second_integer_as_divisor)
5 print("Quotient of two numbers is",quotient,"and the remainder is",remainder)
6 if(quotient==0):
7 print("quotient is zero")
8 else:
9 print("quotient is non zero")
10 if(remainder==0):
11 print("remainder is zero")
12 else:
13 print("remainder is non zero")
PROBLEMS
OUTPUT
TERMINAL
DEBUG CONSOLE
Python
C:\Users\HP\3D Objects\Assignment4_Python_21104093>"C:/Program Files/Python310/python.exe" "c:/Users/HP/3D Objects/Assignment4_Python_21104093/q3(b).py"
Enter a integer as divident:4
Enter another integer as divisor:2
Quotient of two numbers is 2 and the remainder is 0
quotient is non zero
remainder is zero
C:\Users\HP\3D Objects\Assignment4_Python_21104093>


File Edit Selection View Go Run Terminal Help
q3(c).py - Assignment4_Python_21104093 - Visual Studio Code
q3(c).py
q3(d)
q3(e)
q3(c).py > new_list
first_integer_as_divident=int(input("Enter a integer as divident:"))
second_integer_as_divisor=int(input("Enter another integer as divisor:"))
quotient=first_integer_as_divident//second_integer_as_divisor
remainder=first_integer_as_divident%second_integer_as_divisor
print("Quotient of two numbers is",quotient,"and the remainder is",remainder)
list=list()
list.append(remainder)
list.append(quotient)
list.append(4)
list.append(5)
list.append(6)
print("old list:",list)
new_list=[]
for i in list:
if i>4:
new_list.append(i)
print("new list:",new_list)
PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE
Python
C:\Users\HP\3D Objects\Assignment4_Python_21104093>"C:/Program Files/Python310/python.exe" "c:/Users/HP/3D Objects/Assignment4_Python_21104093/q3(c)
.py"
Enter a integer as divident:6
Enter another integer as divisor:3
Quotient of two numbers is 2 and the remainder is 0
old list: [0, 2, 4, 5, 6]
new list: [5, 6]
C:\Users\HP\3D Objects\Assignment4_Python_21104093>
Live Share
Ln 13, Col 12
Spaces: 4
UTF-8
CRLF
Python

File Edit Selection View Go Run Terminal Help

q3(d) - Assignment4_Python_21104093 - Visual Studio Code

q3(c).py | q3(d) | q3(e)

q3(d) > ...

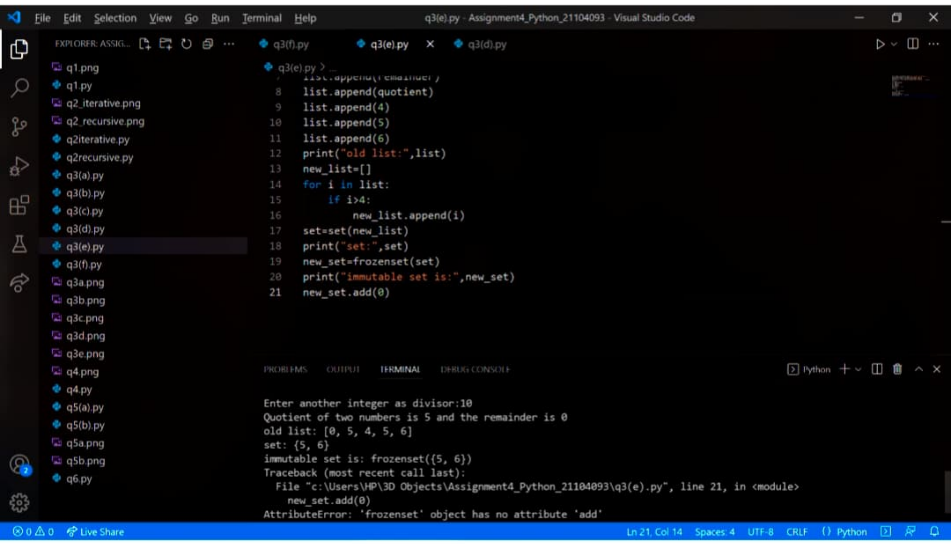
```
first_integer_as_divident=int(input("Enter a integer as divident:"))
second_integer_as_divisor=int(input("Enter another integer as divisor:"))
quotient=first_integer_as_divident//second_integer_as_divisor
remainder=first_integer_as_divident%second_integer_as_divisor
print("Quotient of two numbers is",quotient,"and the remainder is",remainder)
list=list()
list.append(remainder)
list.append(quotient)
list.append(4)
list.append(5)
list.append(6)
print("old list:",list)
new_list=[]
for i in list:
    if i>4:
        new_list.append(i)
set=set(new_list)
print("set:",set)
```

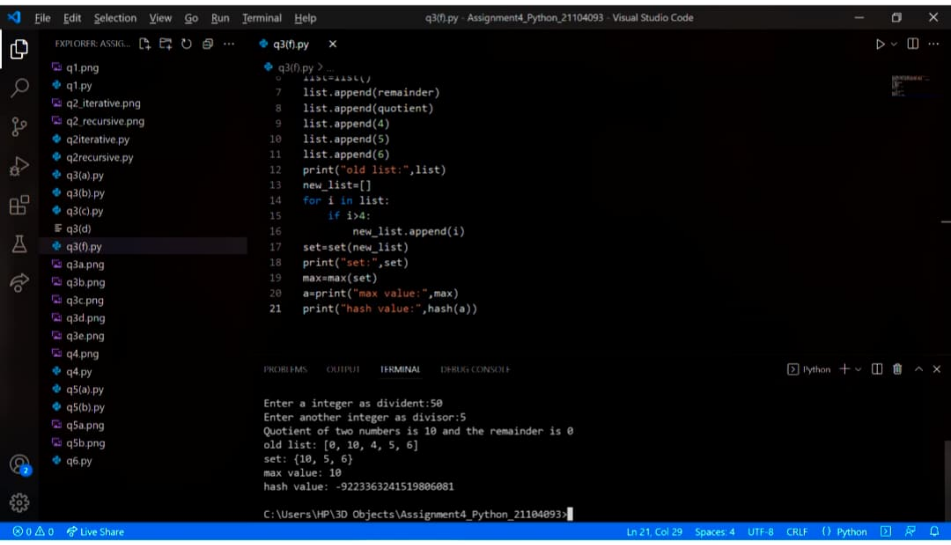
PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE

Python

```
C:\Users\HP\3D Objects\Assignment4_Python_21104093>"C:/Program Files/Python310/python.exe" "c:/Users/HP/3D Objects/Assignment4_Python_21104093/q3(d)
"
Enter a integer as divident:4
Enter another integer as divisor:2
Quotient of two numbers is 2 and the remainder is 0
old list: [0, 2, 4, 5, 6]
set: {5, 6}

C:\Users\HP\3D Objects\Assignment4_Python_21104093>
```

Ln 10, Col 15 Spaces: 4 UTF-8 CRLF {} Python


File Edit Selection View Go Run Terminal Help
q3(e).py - Assignment4_Python_21104093 - Visual Studio Code
EXPLORER: ASSIG...
q1.png
q1.py
q2_iterative.png
q2_recursive.png
q2iterative.py
q2recursive.py
q3(a).py
q3(b).py
q3(c).py
q3(d).py
q3(e).py
q3(f).py
q3a.png
q3b.png
q3c.png
q3d.png
q3e.png
q4.png
q4.py
q5(a).py
q5(b).py
q5a.png
q5b.png
q6.py
q3(f).py
q3(e).py
q3(d).py
q3(e).py > ...
list.append(quotient)
list.append(4)
list.append(5)
list.append(6)
print("old list:",list)
new_list=[]
for i in list:
if i>4:
new_list.append(i)
set=set(new_list)
print("set:",set)
new_set=frozenset(set)
print("immutable set is:",new_set)
new_set.add(0)
PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE
Python
Enter another integer as divisor:10
Quotient of two numbers is 5 and the remainder is 0
old list: [0, 5, 4, 5, 6]
set: {5, 6}
immutable set is: frozenset({5, 6})
Traceback (most recent call last):
File "c:\Users\HP\3D Objects\Assignment4_Python_21104093\q3(e).py", line 21, in <module>
new_set.add(0)
AttributeError: 'frozenset' object has no attribute 'add'
Live Share
Ln 21, Col 14 Spaces: 4 UTF-8 CRLF Python


File Edit Selection View Go Run Terminal Help
q3(f).py - Assignment4_Python_21104093 - Visual Studio Code
EXPLORER: ASSIG...
q1.png
q1.py
q2_iterative.png
q2_recursive.png
q2iterative.py
q2recursive.py
q3(a).py
q3(b).py
q3(c).py
q3(d)
q3(f).py
q3a.png
q3b.png
q3c.png
q3d.png
q3e.png
q4.png
q4.py
q5(a).py
q5(b).py
q5a.png
q5b.png
q6.py
q3(f).py
list.append(remainder)
list.append(quotient)
list.append(4)
list.append(5)
list.append(6)
print("old list:",list)
new_list=[]
for i in list:
if i>4:
new_list.append(i)
set=set(new_list)
print("set:",set)
max=max(set)
a=print("max value:",max)
print("hash value:",hash(a))
PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE
Python
Enter a integer as divident:50
Enter another integer as divisor:5
Quotient of two numbers is 10 and the remainder is 0
old list: [0, 10, 4, 5, 6]
set: {10, 5, 6}
max value: 10
hash value: -9223363241519806081
C:\Users\HP\3D Objects\Assignment4_Python_21104093>
Live Share
Ln 21, Col 29 Spaces: 4 UTF-8 CRLF Python

q3(a).py q3(b).py q4.py

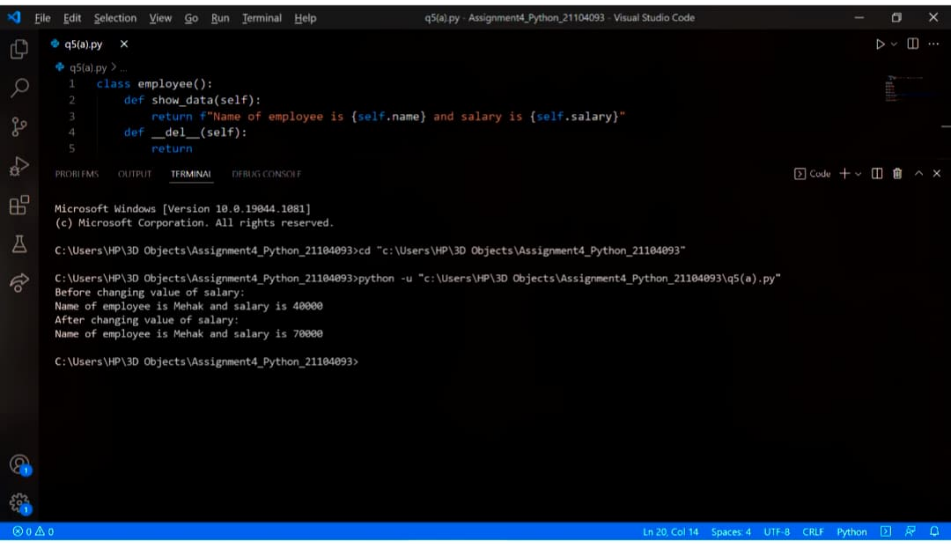
q4.py > ...

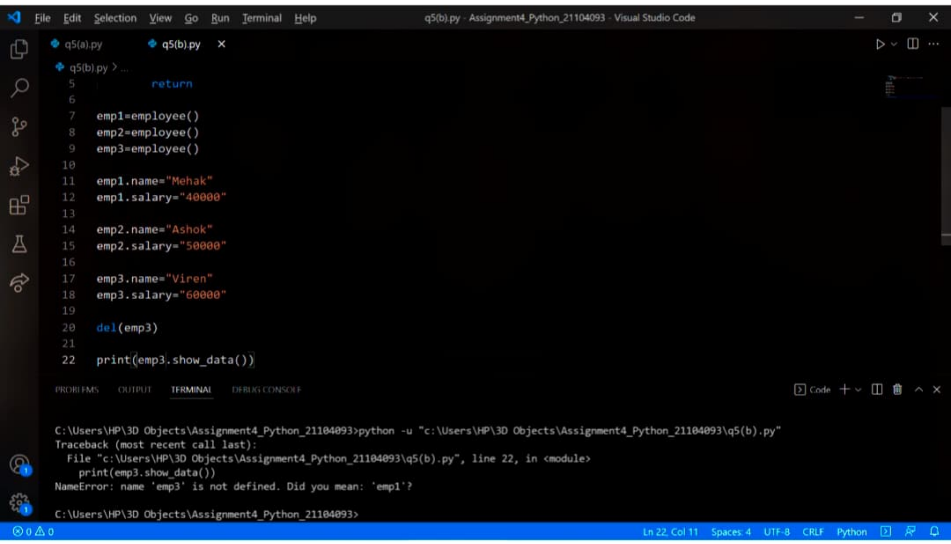
```python
class student:
    def __init__(self):
        self.name=name
        self.roll=roll
        return self.name,self.roll
    def __del__(self):
        return
name="Garvit"
roll="93"
student1=student
print(student1.__init__(student1))
del(student1)
print(student1.__init__(student1))
```

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE

Code

```
C:\Users\HP\3D Objects\Assignment4_Python_21104093>cd "c:\Users\HP\3D Objects\Assignment4_Python_21104093"

C:\Users\HP\3D Objects\Assignment4_Python_21104093>python -u "c:\Users\HP\3D Objects\Assignment4_Python_21104093
\q4.py"
('Garvit', '93')
Traceback (most recent call last):
  File "c:\Users\HP\3D Objects\Assignment4_Python_21104093\q4.py", line 13, in <module>
    print(student1.__init__(student1))
NameError: name 'student1' is not defined. Did you mean: 'student'?

C:\Users\HP\3D Objects\Assignment4_Python_21104093>
```


File Edit Selection View Go Run Terminal Help
q5(a).py - Assignment4_Python_21104093 - Visual Studio Code
q5(a).py
q5(a).py > ...
1 class employee():
2 def show_data(self):
3 return f"Name of employee is {self.name} and salary is {self.salary}"
4 def __del__(self):
5 return
PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE
Code
Microsoft Windows [Version 10.0.19044.1081]
(c) Microsoft Corporation. All rights reserved.
C:\Users\HP\3D Objects\Assignment4_Python_21104093>cd "c:\Users\HP\3D Objects\Assignment4_Python_21104093"
C:\Users\HP\3D Objects\Assignment4_Python_21104093>python -u "c:\Users\HP\3D Objects\Assignment4_Python_21104093\q5(a).py"
Before changing value of salary:
Name of employee is Mehak and salary is 40000
After changing value of salary:
Name of employee is Mehak and salary is 70000
C:\Users\HP\3D Objects\Assignment4_Python_21104093>
0 0
Ln 20, Col 14 Spaces: 4 UTF-8 CRLF Python


File Edit Selection View Go Run Terminal Help
q5(b).py - Assignment4_Python_21104093 - Visual Studio Code
q5(a).py
q5(b).py
q5(b).py > ...
return
emp1=employee()
emp2=employee()
emp3=employee()
emp1.name="Mehak"
emp1.salary="40000"
emp2.name="Ashok"
emp2.salary="50000"
emp3.name="Viren"
emp3.salary="60000"
del(emp3)
print(emp3.show_data())
PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE
Code
C:\Users\HP\3D Objects\Assignment4_Python_21104093>python -u "c:\Users\HP\3D Objects\Assignment4_Python_21104093\q5(b).py"
Traceback (most recent call last):
File "c:\Users\HP\3D Objects\Assignment4_Python_21104093\q5(b).py", line 22, in <module>
print(emp3.show_data())
NameError: name 'emp3' is not defined. Did you mean: 'emp1'?
C:\Users\HP\3D Objects\Assignment4_Python_21104093>
Ln 22, Col 11 Spaces: 4 UTF-8 CRLF Python

File Edit Selection View Go Run Terminal Help

q6.py - Assignment4_Python_21104093 - Visual Studio Code

EXPLORER: ASSIG...

- q1.png
- q1.py
- q2_iterative.png
- q2_recursive.png
- q2iterative.py
- q2recursive.py
- q3(a).py
- q3(b).py
- q3(c).py
- q3(d).py
- q3(e).py
- q3(f).py
- q3a.png
- q3b.png
- q3c.png
- q3d.png
- q3e.png
- q4.png
- q4.py
- q5(a).py
- q5(b).py
- q5a.png
- q5b.png
- q6.py

q6.py

q6.py > n

```
1  from itertools import permutations
2  import enchant
3  d = enchant.Dict("en_US")
4  op=set()
5  word=str(input("Enter a word:"))
6  letters=[x.lower() for x in word ]
7  for n in range(len(word),len(word)+1):
8      for y in list(permutations(letters,n)):
9          z=(''.join(y))
10         if len(z)>2:
11             if d.check(z):
12                 op.add(z)
13 print(op)
14
```

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE

Python

```
Microsoft Windows [Version 10.0.19044.1081]
(c) Microsoft Corporation. All rights reserved.

C:\Users\HP\3D Objects\Assignment4_Python_21104093>"C:/Program Files/Python310/python.exe" "c:/Users/HP/3D Obj
ects/Assignment4_Python_21104093/q6.py"
Enter a word:tigre
{'tiger'}

C:\Users\HP\3D Objects\Assignment4_Python_21104093>
```

Live Share