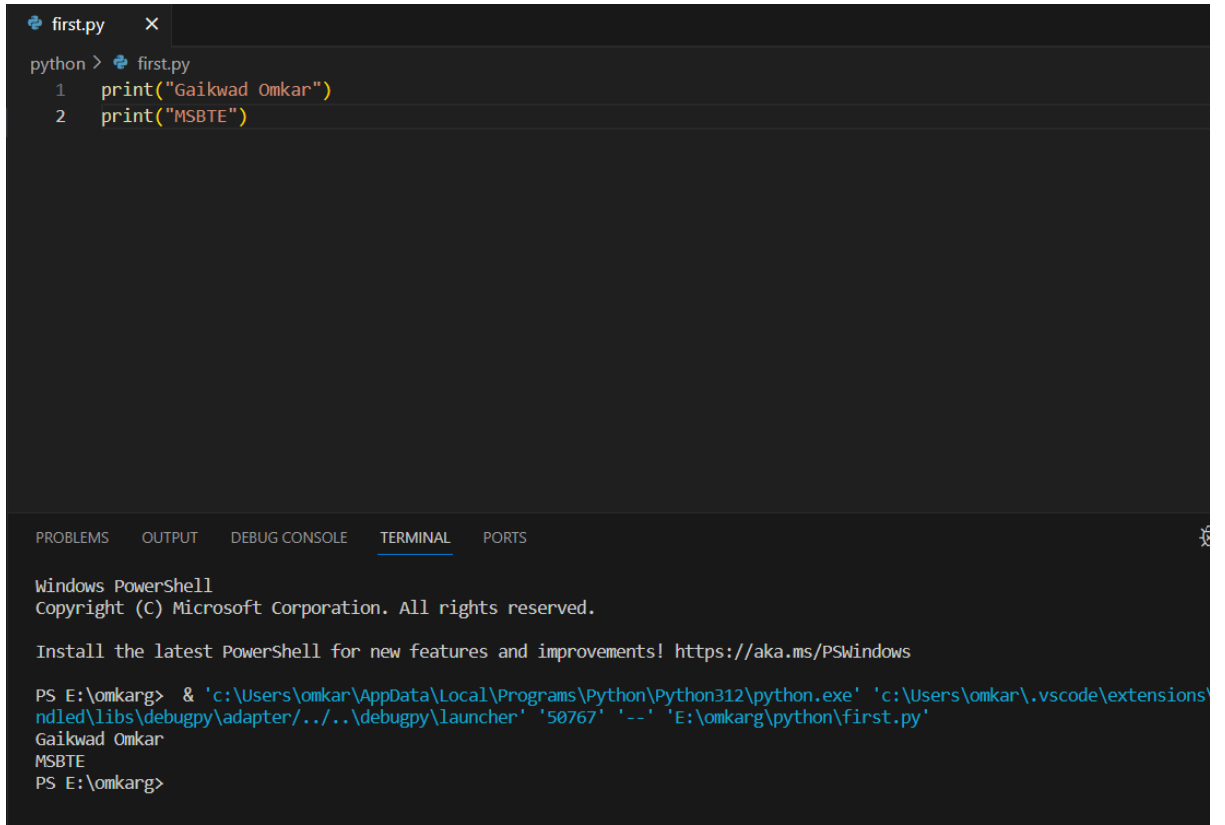


Practical No: 2

- Displaying name and 'MSBTE' message on screen:



The image shows a screenshot of a Visual Studio Code editor window. The editor has a tab titled 'first.py'. The code in the editor is as follows:

```
python > first.py
1  print("Gaikwad Omkar")
2  print("MSBTE")
```

Below the editor, the 'TERMINAL' panel is open, showing the output of the script. The terminal text is:

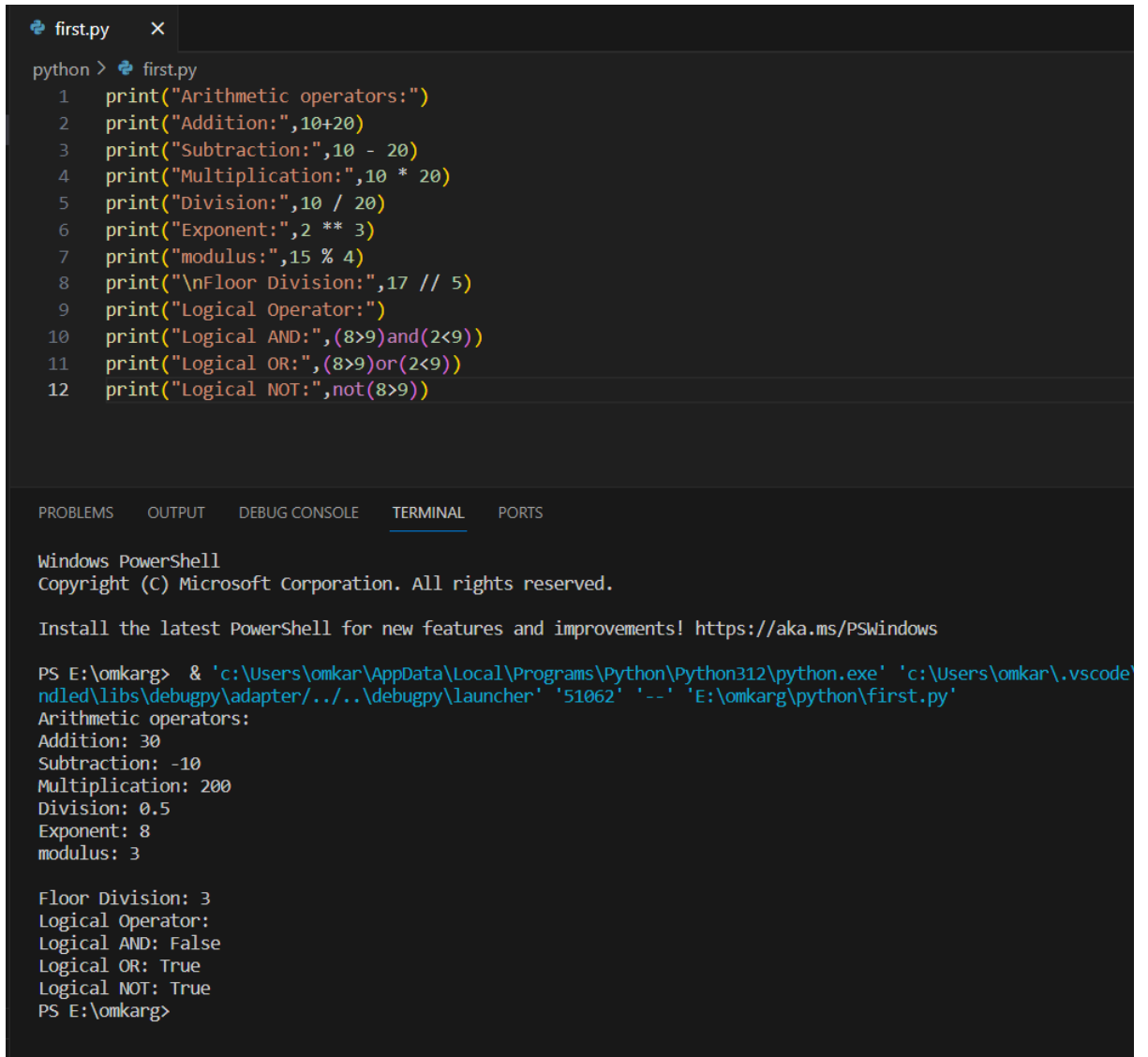
```
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PS E:\omkarg> & 'c:\Users\omkar\AppData\Local\Programs\Python\Python312\python.exe' 'c:\Users\omkar\.vscode\extensions\ms-python.python\tools\debugpy\adapter\..\..\debugpy\launcher' '50767' '--' 'E:\omkarg\python\first.py'
Gaikwad Omkar
MSBTE
PS E:\omkarg>
```

Practical No: 3

- Arithmetic and Logical Operators:



The image shows a screenshot of a VS Code editor window with a file named `first.py`. The editor contains a Python script that demonstrates various arithmetic and logical operators. Below the editor, the terminal output is displayed, showing the execution of the script.

```
python > first.py
1  print("Arithmetic operators:")
2  print("Addition:",10+20)
3  print("Subtraction:",10 - 20)
4  print("Multiplication:",10 * 20)
5  print("Division:",10 / 20)
6  print("Exponent:",2 ** 3)
7  print("modulus:",15 % 4)
8  print("\nFloor Division:",17 // 5)
9  print("Logical Operator:")
10 print("Logical AND:",(8>9)and(2<9))
11 print("Logical OR:",(8>9)or(2<9))
12 print("Logical NOT:",not(8>9))
```

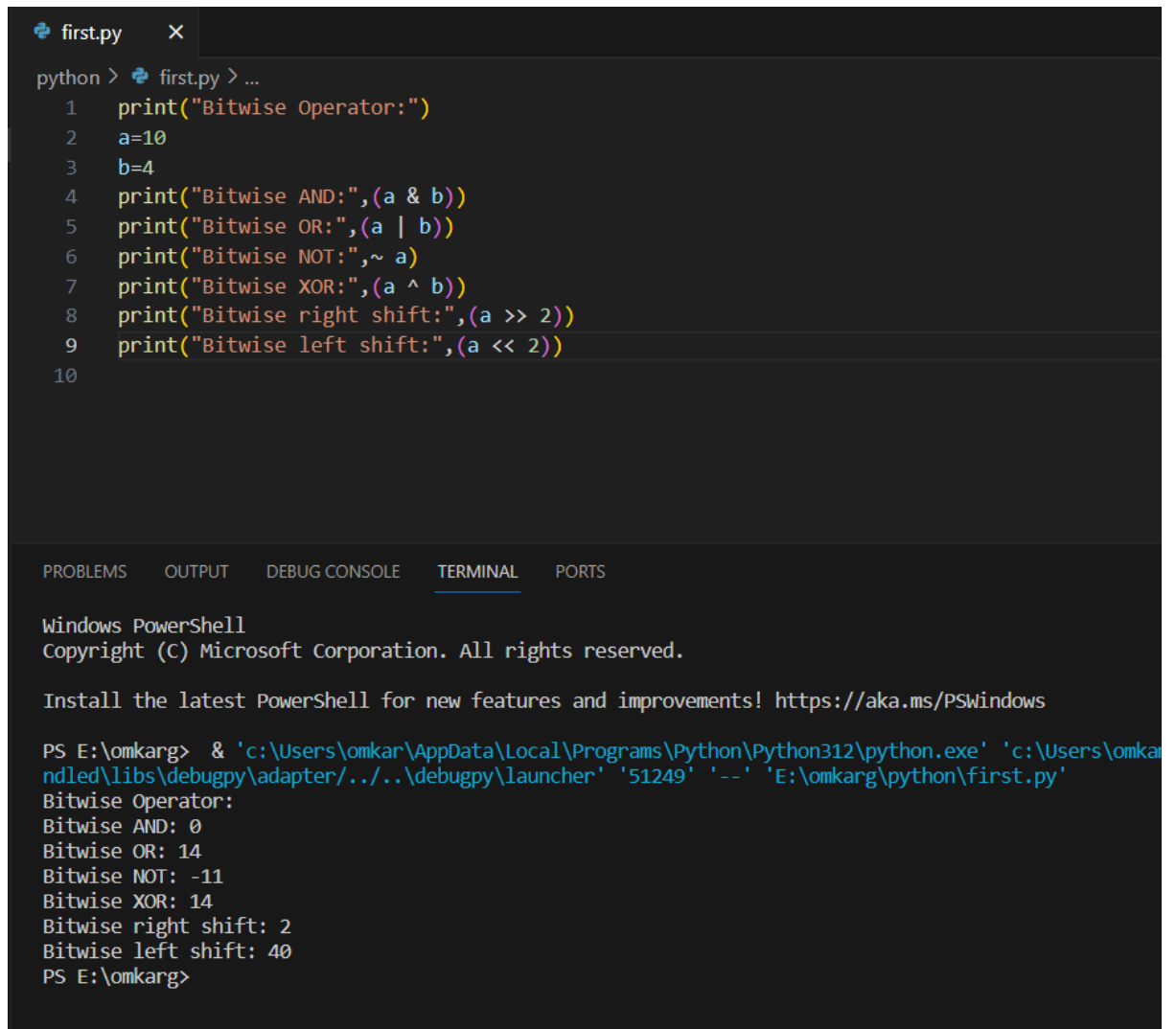
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```
PS E:\omkarg> & 'c:\Users\omkar\AppData\Local\Programs\Python\Python312\python.exe' 'c:\Users\omkar\.vscode\
ndled\libs\debugpy\adapter\..\..\debugpy\launcher' '51062' '--' 'E:\omkarg\python\first.py'
Arithmetic operators:
Addition: 30
Subtraction: -10
Multiplication: 200
Division: 0.5
Exponent: 8
modulus: 3

Floor Division: 3
Logical Operator:
Logical AND: False
Logical OR: True
Logical NOT: True
PS E:\omkarg>
```

- Bitwise Operator:



The image shows a Visual Studio Code editor window with a file named `first.py`. The Python script defines variables `a=10` and `b=4`, and then prints the results of various bitwise operations. Below the editor, the integrated terminal shows the output of running the script, which matches the print statements in the code.

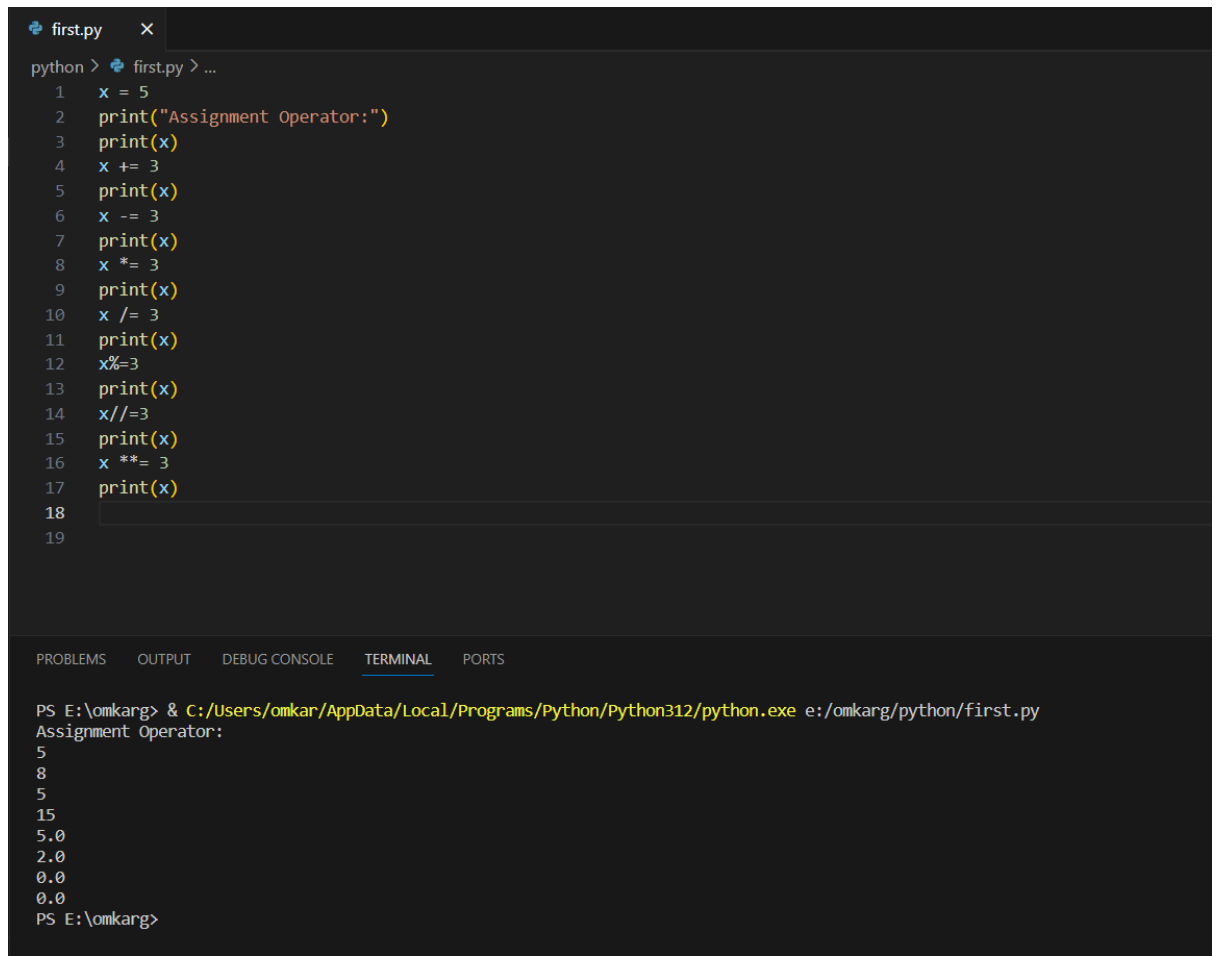
```
python > first.py > ...
1  print("Bitwise Operator:")
2  a=10
3  b=4
4  print("Bitwise AND:",(a & b))
5  print("Bitwise OR:",(a | b))
6  print("Bitwise NOT:",~ a)
7  print("Bitwise XOR:",(a ^ b))
8  print("Bitwise right shift:",(a >> 2))
9  print("Bitwise left shift:",(a << 2))
10
```

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```
PS E:\omkarg> & 'c:\Users\omkar\AppData\Local\Programs\Python\Python312\python.exe' 'c:\Users\omkar\ndled\libs\debugpy\adapter\..\..\debugpy\launcher' '51249' '--' 'E:\omkarg\python\first.py'
Bitwise Operator:
Bitwise AND: 0
Bitwise OR: 14
Bitwise NOT: -11
Bitwise XOR: 14
Bitwise right shift: 2
Bitwise left shift: 40
PS E:\omkarg>
```

- Assignment Operator:



The image shows a code editor window with a file named 'first.py' and a terminal window below it. The code in 'first.py' demonstrates various assignment operators: simple assignment, addition, subtraction, multiplication, division, modulus, floor division, and exponentiation. The terminal shows the output of running the script, which matches the printed values in the code.

```
python > first.py > ...
1  x = 5
2  print("Assignment Operator:")
3  print(x)
4  x += 3
5  print(x)
6  x -= 3
7  print(x)
8  x *= 3
9  print(x)
10 x /= 3
11 print(x)
12 x%=3
13 print(x)
14 x//=3
15 print(x)
16 x **= 3
17 print(x)
18
19
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS E:\omkarg> & C:/Users/omkar/AppData/Local/Programs/Python/Python312/python.exe e:/omkarg/python/first.py
Assignment Operator:
5
8
5
15
5.0
2.0
0.0
0.0
PS E:\omkarg>
```

- Relational, Identity, Membership Operators:

```
first.py x
python > first.py > ...
1  x = 5
2  y = 3
3  print("Relational Operator or Comparison Operators:")
4  print(x == y)
5  print(x != y)
6  print(x > y)
7  print(x < y)
8  print(x > y)
9  print(x >= y)
10 print(x <= y)
11 print("\nIdentity Operators:")
12 x = ["apple", "banana"]
13 y = ["apple", "banana"]
14 z = x
15 print(x is z)
16 print(x is y)
17 print("\nMembership Operator:")
18 x = ["apple", "banana"]
19 print("banana" in x)
20 print("pineapple" not in x)
21

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

Relational Operator or Comparison Operators:
False
True
True
False
True
True
False

Identity Operators:
True
False

Membership Operator:
True
True
PS E:\omkarg>
```

Practical No: 4

- If-else statement:

```
first.py  X
python > first.py > ...
1  a=int(input("Enter a number:"))
2  if (a % 2) == 0:
3      print("Num is even")
4  else:
5      print("Num is odd")

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PS E:\omkarg> & 'c:\Users\omkar\AppData\Local\Programs\Python\Python312\python.exe' 'c:\Users\omkar\AppData\Local\Programs\Python\Python312\python.exe' -m debugpy -- --listen 52306 --client 'E:\omkarg\python\first.py'
Enter a number:2
Num is even
PS E:\omkarg> 
```

- Abs function and greatest num among three num:

```
first.py  ●
python > first.py > ...
1  a = int(input("Enter a number:"))
2  abs_value = abs(a)
3
4  print("Absolute Value of given num is:",abs_value)
5  num1 = 10
6  num2 = 20
7  num3 = 30
8  if (num1>=num2) and (num1>=num3):
9      print("\nnum1 is Largest")
10 elif (num2>=num1) and (num2>=num3):
11     print("\nnum2 is Largest")
12 else:
13     print("\nnum3 is Largest")

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PS E:\omkarg> & 'c:\Users\omkar\AppData\Local\Programs\Python\Python312\python.exe' 'c:\Users\omkar\AppData\Local\Programs\Python\Python312\python.exe' -m debugpy -- --listen 52721 --client 'E:\omkarg\python\first.py'
Enter a number:-5
Absolute Value of given num is: 5

num3 is Largest
PS E:\omkarg> 
```

- Leap year and positive-negative num:

```
first.py  X
python > first.py > ...
1  year = int(input("Enter Year:"))
2  if ((year%400==0)or(year%100!=0)and(year%4==0)):
3      print("Given year is leap year")
4  else:
5      print("Given year isn't leap year")
6
7  num = int(input("\nenter num to check whether it is positive or negative:"))
8  if (num>0):
9      print("\nGiven num is positive")
10 else:
11     print("\nGiven num negative")

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PS E:\omkarg> & 'c:\Users\omkar\AppData\Local\Programs\Python\Python312\python.exe' 'c:\Users\omkar\.vs
ndled\libs\debugpy\adapter\..\..\debugpy\launcher' '52920' '--' 'E:\omkarg\python\first.py'
Enter Year:2024
Given year is leap year

enter num to check whether it is positive or negative:-5

Given num negative
PS E:\omkarg> 
```

- Student Grade:

```
first.py X
python > first.py > ...
1  sub1 = float(input("Enter marks of sub1:"))
2  sub2 = float(input("Enter marks of sub2:"))
3  sub3 = float(input("Enter marks of sub3:"))
4  sub4 = float(input("Enter marks of sub4:"))
5  sub5 = float(input("Enter marks of sub5:"))
6
7  avg = (sub1+sub2+sub3+sub4+sub5)/5
8
9  if(avg>90):
10 |     print("First Class")
11 elif((avg>70)and(avg<90)):
12 |     print("Second Class")
13 elif((avg>50)and(avg<70)):
14 |     print("Third Class")
15 elif((avg>30)and(avg<50)):
16 |     print("Fourth Class")
17 else:
18 |     print("Sorry you failed Better luck next time")

PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

Enter marks of sub1:78
Enter marks of sub2:90
Enter marks of sub3:98
Enter marks of sub4:89
Enter marks of sub5:94
Second Class
PS E:\omkarg> 
```


Practical No: 5

- For loop:

```
first.py  X
python > first.py > ...
1  num = 10
2  num1 = 0
3  num2 = 1
4  print("Fibonacci Series Upto 10 is:")
5  print(num1)
6  print(num2)
7  for i in range(2,num):
8      num3=num1+num2
9      print(num3)
10     num1=num2
11     num2=num3
12
13

PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

PS E:\omkarg> & C:/Users/omkar/AppData/Local/Programs/Python/Python312/python.exe e:/omkarg/python/first.py
Fibonacci Series Upto 10 is:
0
1
1
2
3
5
8
13
21
34
PS E:\omkarg>
```

- While loop and nested loop:

```
first.py  X
python > first.py > ...
1  n=5
2  for i in range(0,n):
3      for j in range(0,i+1):
4          print("*",end="")
5      print("\r")
6
7  num = 10
8  sum = 0
9  while(num>0):
10     sum+=num
11     num-=1
12     print("\nThe sum is:",sum)

PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

ndled\libs\debugpy\adapter\../../debugpy\launcher' '53230' '--' 'E:\omkarg\python\first.py'
*
**
***
****
*****

The sum is: 55
PS E:\omkarg>
```