

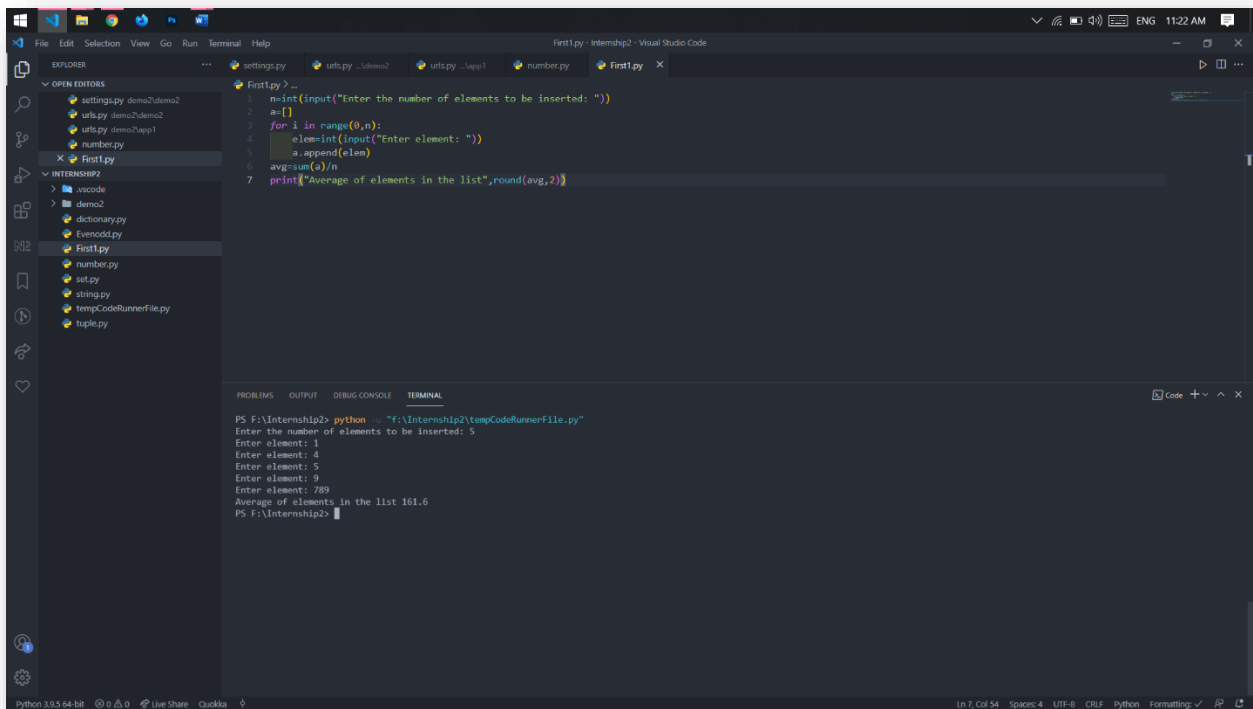
TASK

1. Calculate average of 5 numbers.

Code: -

```
1 n=int(input("Enter the number of elements to be inserted: "))
2 a=[]
3 for i in range(0,n):
4     elem=int(input("Enter element: "))
5     a.append(elem)
6 avg=sum(a)/n
7 print("Average of elements in the list",round(avg,2))
```

Output: -



The screenshot shows the Visual Studio Code interface with a Python file named 'First1.py' open. The code in the editor is identical to the one provided in the 'Code' block. The terminal at the bottom shows the execution of the script using the command 'python -i "f:\Internship2\tempCodeRunnerFile.py"'. The output of the program is as follows:

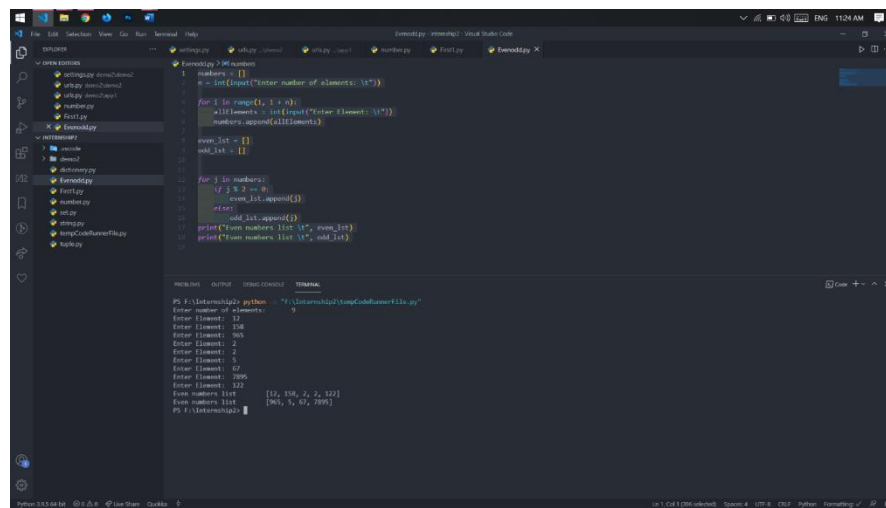
```
PS F:\Internship2> python -i "f:\Internship2\tempCodeRunnerFile.py"
Enter the number of elements to be inserted: 5
Enter element: 1
Enter element: 4
Enter element: 5
Enter element: 9
Enter element: 789
Average of elements in the list 161.6
PS F:\Internship2>
```

2. Check whether number is even or odd.

Code: -

```
1 numbers = []
2 n = int(input("Enter number of elements: \t"))
3
4 for i in range(1, 1 + n):
5     allElements = int(input("Enter Element: \t"))
6     numbers.append(allElements)
7
8 even_lst = []
9 odd_lst = []
10
11
12 for j in numbers:
13     if j % 2 == 0:
14         even_lst.append(j)
15     else:
16         odd_lst.append(j)
17 print("Even numbers list \t", even_lst)
18 print("Even numbers list \t", odd_lst)
19
```

Output:-

A screenshot of a Python IDE (likely VS Code) showing the code from the previous block. The code is executed, and the output is displayed in the terminal. The output shows the input values and the resulting even and odd number lists.

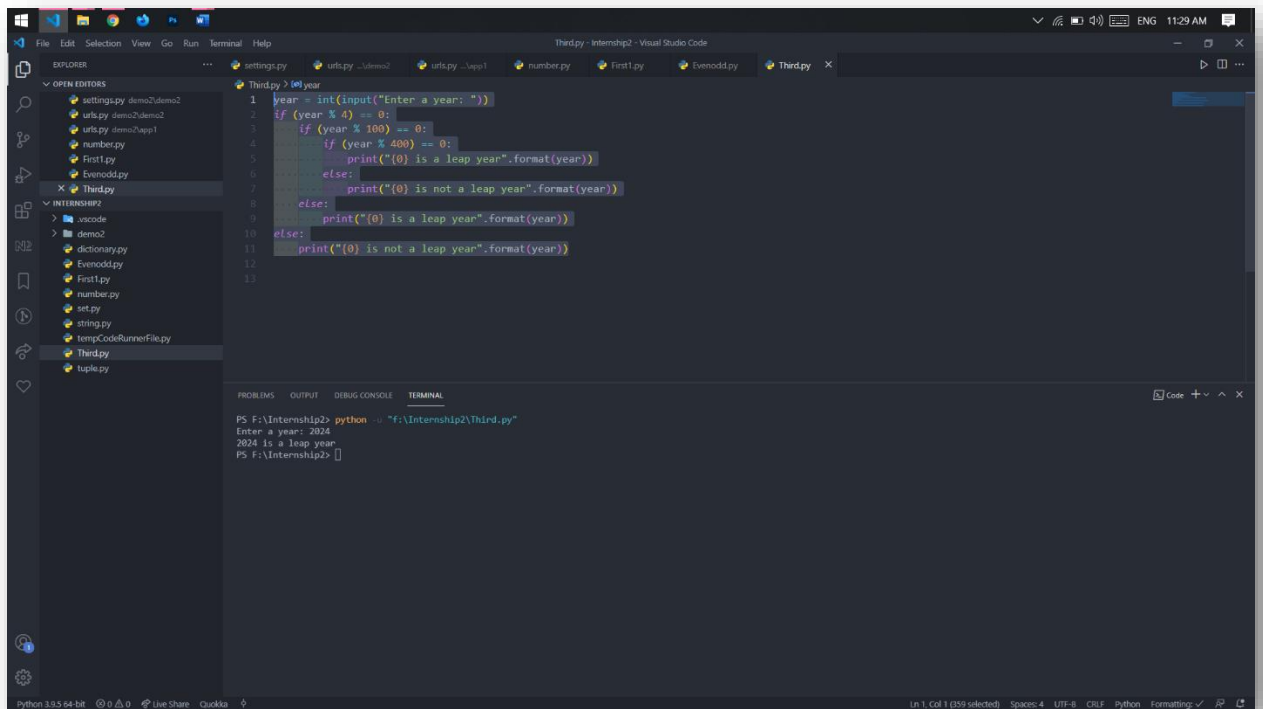
```
PS 1: [User@localhost ~]$ python3 tempCodeRunnerFile.py
Enter number of elements: 9
Enter Element: 12
Enter Element: 158
Enter Element: 905
Enter Element: 2
Enter Element: 5
Enter Element: 67
Enter Element: 1095
Enter Element: 122
Even numbers list: [12, 158, 2, 2, 122]
Odd numbers list: [905, 5, 67, 1095]
PS 1: [User@localhost ~]$
```

3. Take a year and check whether it is leap year or not

Code :-

```
1 year = int(input("Enter a year: "))
2 if (year % 4) == 0:
3     if (year % 100) == 0:
4         if (year % 400) == 0:
5             print("{0} is a leap year".format(year))
6         else:
7             print("{0} is not a leap year".format(year))
8     else:
9         print("{0} is a leap year".format(year))
10 else:
11     print("{0} is not a leap year".format(year))
```

Output: -



The screenshot shows a Visual Studio Code window with the following components:

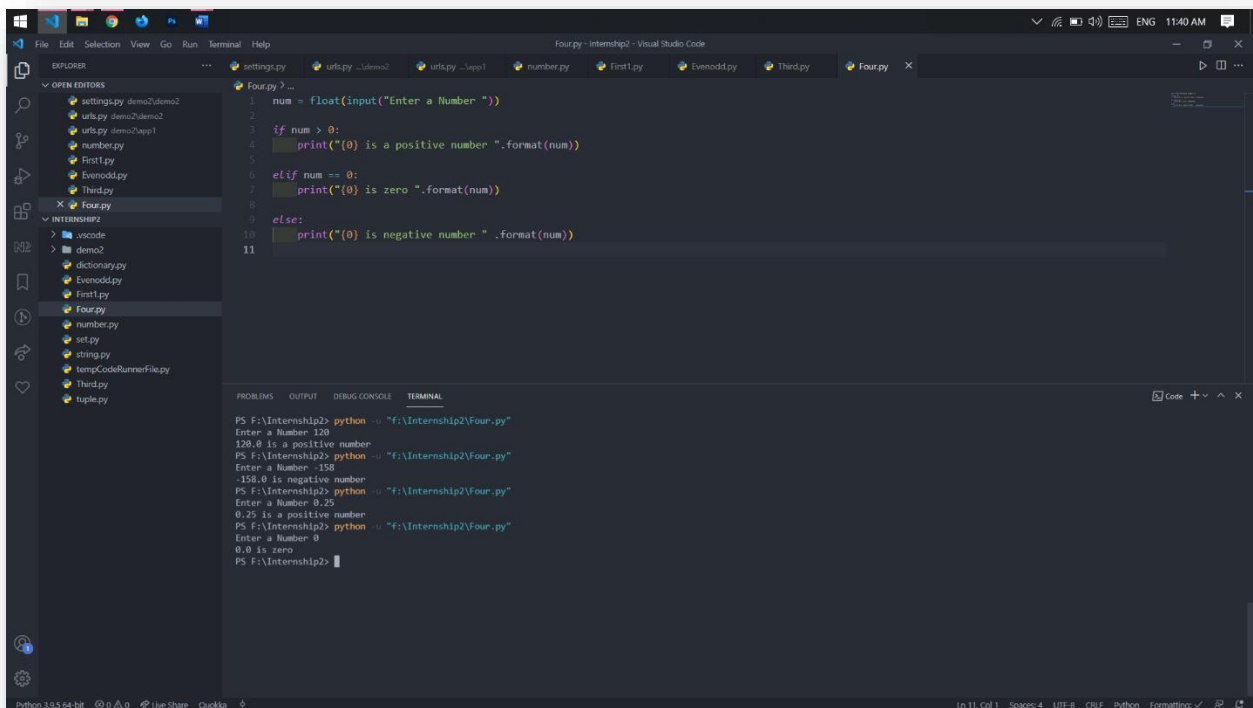
- Explorer:** A sidebar on the left showing a file tree with folders like 'demo2' and 'Thirpy', and files like 'Thirpy.py'.
- Editor:** The main area displays the Python code for checking a leap year, with line numbers 1 through 13.
- Terminal:** At the bottom, a terminal window shows the command `python -u "F:\Internship2\Thirpy.py"` and the output: `Enter a year: 2024` followed by `2024 is a leap year`.
- Status Bar:** The bottom of the window shows 'Python 3.8.5 64-bit', 'Ln 1, Col 1 (359 selected)', 'Spaces: 4', 'UTF-8', 'CRLF', 'Python', and 'Formatting: ✓'.

4. Take a number and check whether it is zero, positive or negative.

Code: -

```
1 num = float(input("Enter a Number "))
2
3 if num > 0:
4     print("{0} is a positive number ".format(num))
5
6 elif num == 0:
7     print("{0} is zero ".format(num))
8
9 else:
10    print("{0} is negative number " .format(num))
11
```

Output:



The screenshot shows the Visual Studio Code editor with a Python file named 'Four.py' open. The code in the editor is identical to the one provided in the previous block. The terminal at the bottom shows the execution of the program with the following output:

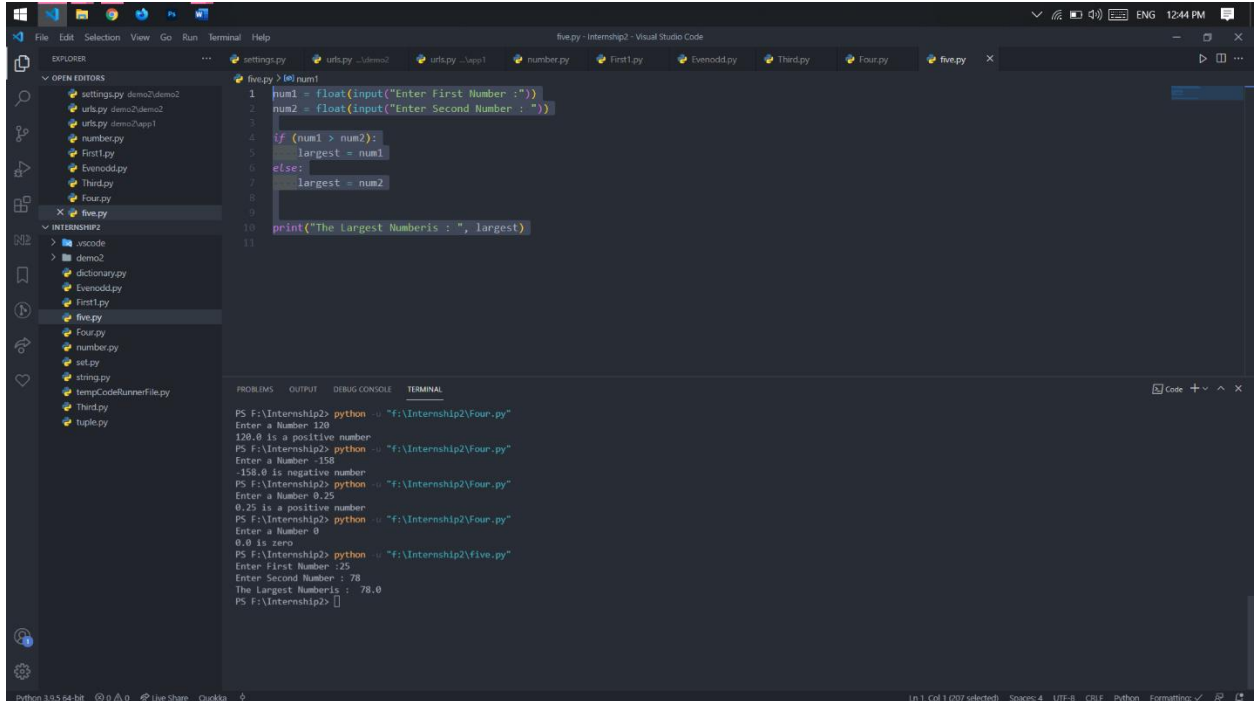
```
PS F:\Internship2> python "f:\Internship2\Four.py"
Enter a Number 120
120.0 is a positive number
PS F:\Internship2> python "f:\Internship2\Four.py"
Enter a Number -158
-158.0 is negative number
PS F:\Internship2> python "f:\Internship2\Four.py"
Enter a Number 0.25
0.25 is a positive number
PS F:\Internship2> python "f:\Internship2\Four.py"
Enter a Number 0
0.0 is zero
PS F:\Internship2>
```

5. Take 2 numbers and display greatest number. (Also check equal number condition) -

Code: -

```
1 num1 = float(input("Enter First Number :"))
2 num2 = float(input("Enter Second Number : "))
3
4 if (num1 > num2):
5     largest = num1
6 else:
7     largest = num2
8
9
10 print("The Largest Numberis : ", largest)
11
```

Output: -



The screenshot shows a Visual Studio Code window with a Python file named 'five.py' open. The code in the editor is identical to the one shown in the previous block. The terminal at the bottom shows the execution of the script. The user has entered '120' for the first number and '120.0' for the second number. The output shows '120.0 is a positive number'. The user has then entered '158' for the first number and '-158.0' for the second number. The output shows '-158.0 is negative number'. The user has then entered '0.25' for the first number and '0.25' for the second number. The output shows '0.25 is a positive number'. The user has then entered '0' for the first number and '0.0' for the second number. The output shows '0.0 is zero'. Finally, the user has entered '25' for the first number and '78' for the second number. The output shows 'The Largest Numberis : 78.0'.

```
PS F:\Internship2> python "f:\Internship2\Four.py"
Enter a Number 120
120.0 is a positive number
PS F:\Internship2> python "f:\Internship2\Four.py"
Enter a Number -158
-158.0 is negative number
PS F:\Internship2> python "f:\Internship2\Four.py"
Enter a Number 0.25
0.25 is a positive number
PS F:\Internship2> python "f:\Internship2\Four.py"
Enter a Number 0
0.0 is zero
PS F:\Internship2> python "f:\Internship2\Five.py"
Enter First Number :25
Enter Second Number : 78
The Largest Numberis : 78.0
PS F:\Internship2>
```

6. Take a number and find factorial of that number.

Code: -

```
1 num = int(input("Enter a Number :"))
2
3 factorial = 1
4 if num < 0:
5     print("Factorial Does not exist ")
6 elif num == 0:
7     print("The Factorial of 0 is 1")
8 else:
9     for i in range(1, num + 1):
10         factorial = factorial * i
11     print("The Facorial of ", num, "is ", factorial)
12
```

Output: -

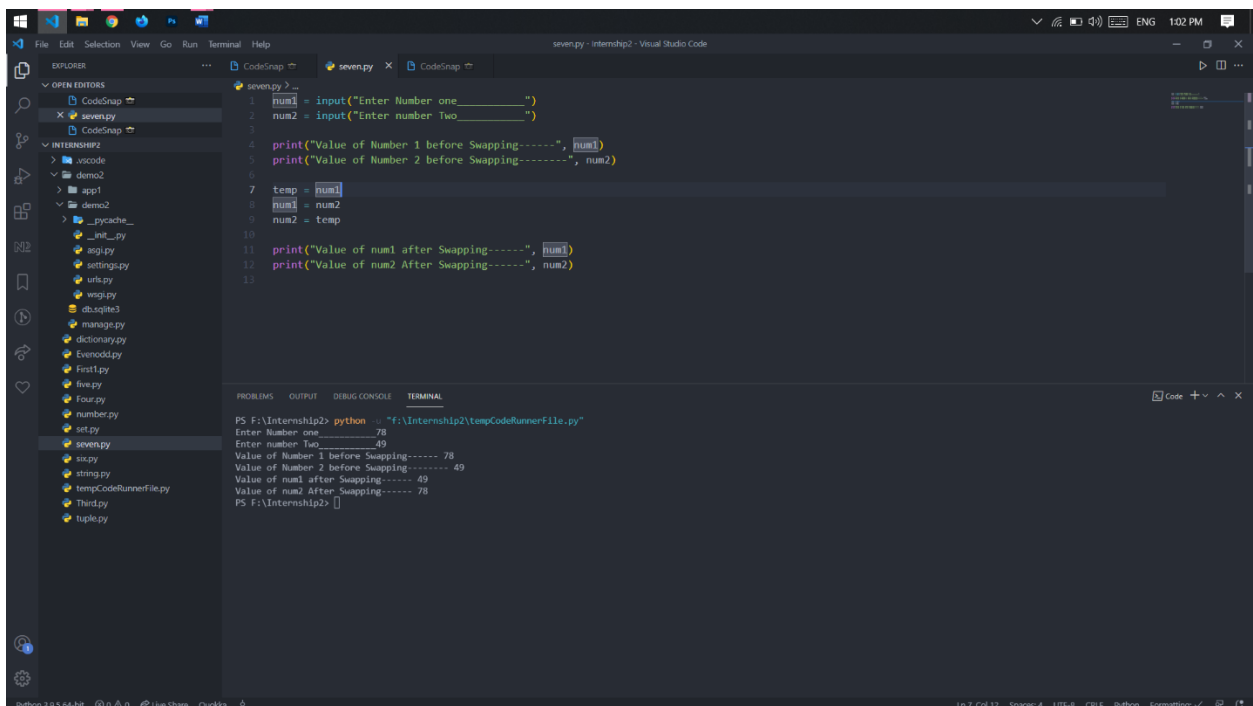
[illegible]

7. Write a program to swap 2 numbers using third variable.

Code:

```
1 num1 = input("Enter Number one_____")
2 num2 = input("Enter number Two_____")
3
4 print("Value of Number 1 before Swapping-----", num1)
5 print("Value of Number 2 before Swapping-----", num2)
6
7 temp = num1
8 num1 = num2
9 num2 = temp
10
11 print("Value of num1 after Swapping-----", num1)
12 print("Value of num2 After Swapping-----", num2)
```

Output:



The screenshot shows the Visual Studio Code interface. The Explorer panel on the left displays a file tree with a project named 'INTERSHIP2' containing various Python files. The main editor window shows a file named 'seven.py' with the following code:

```
1 num1 = input("Enter Number one_____")
2 num2 = input("Enter number Two_____")
3
4 print("Value of Number 1 before Swapping-----", num1)
5 print("Value of Number 2 before Swapping-----", num2)
6
7 temp = num1
8 num1 = num2
9 num2 = temp
10
11 print("Value of num1 after Swapping-----", num1)
12 print("Value of num2 After Swapping-----", num2)
```

The Output panel at the bottom shows the execution results of the script:

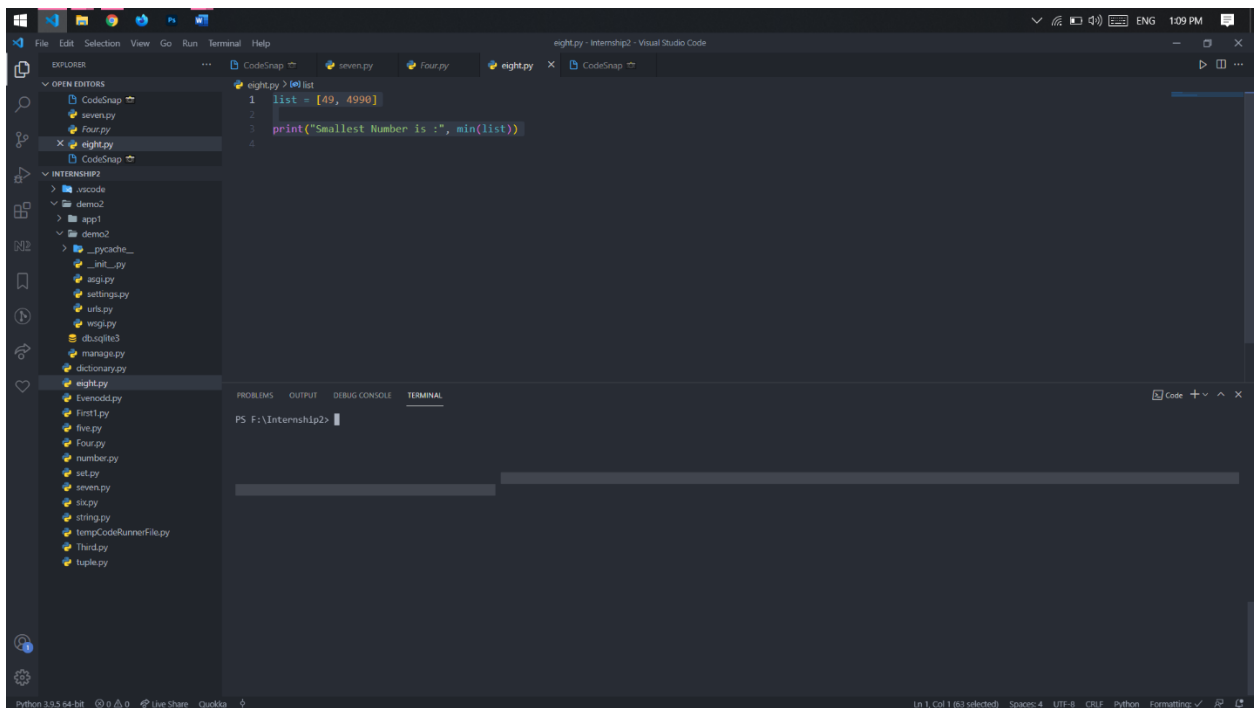
```
PS F:\Internship2> python -u "F:\Internship2\tempCodeRunnerFile.py"
Enter Number one_____78
Enter number Two_____49
Value of Number 1 before Swapping----- 78
Value of Number 2 before Swapping----- 49
Value of num1 after Swapping----- 49
Value of num2 After Swapping----- 78
PS F:\Internship2>
```

8. Take 2 numbers and find smallest number.

Code:

```
1 list = [49, 4990]
2
3 print("Smallest Number is :", min(list))
4
```

Output:



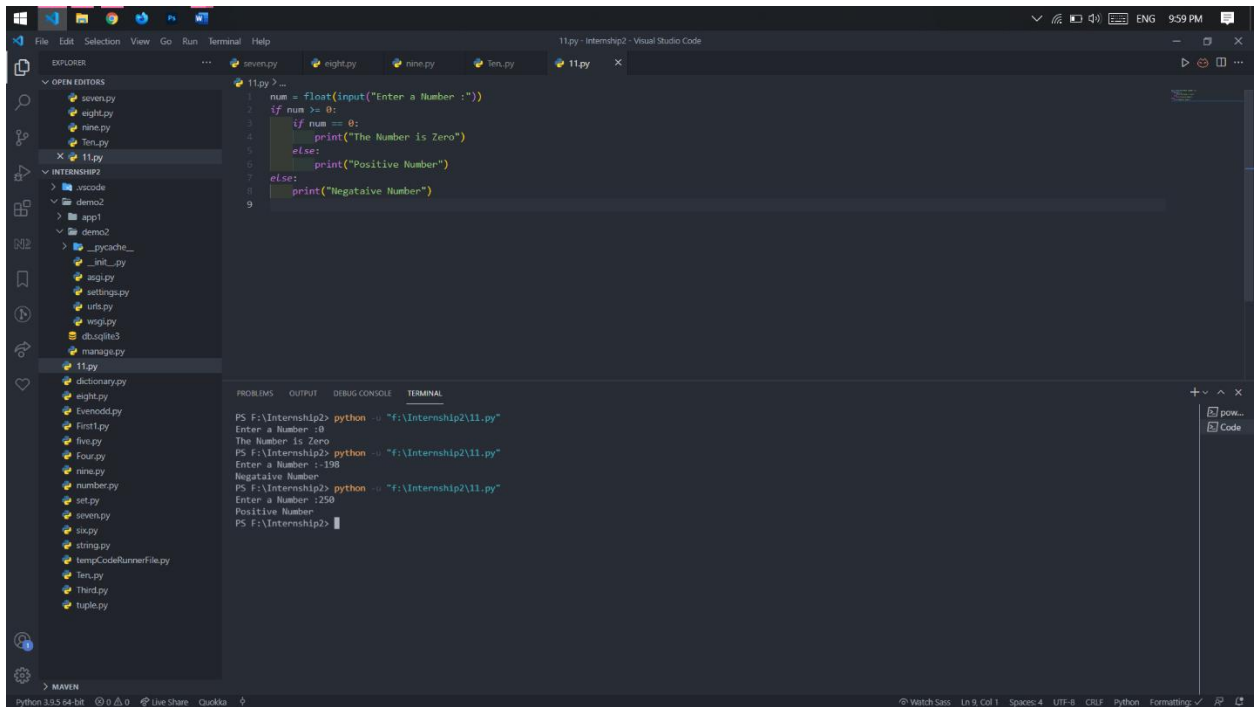
Output :

9. Take a number and check whether it is zero, positive or negative using nested IF...ELSE statement.

Code:

```
1 num = float(input("Enter a Number :"))
2 if num >= 0:
3     if num == 0:
4         print("The Number is Zero")
5     else:
6         print("Positive Number")
7 else:
8     print("Negataive Number")
9
```

Output:



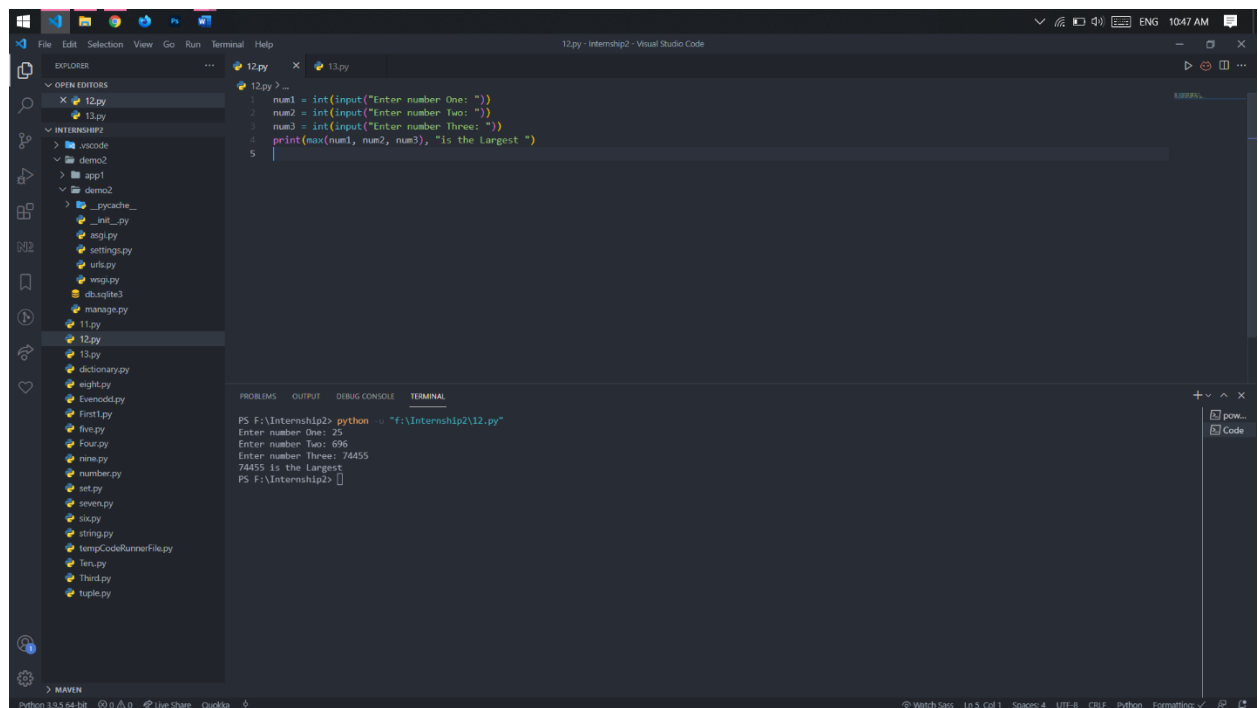
```
PS F:\Internship2> python -u "f:\Internship2\11.py"
Enter a Number :0
The Number is Zero
PS F:\Internship2> python -u "f:\Internship2\11.py"
Enter a Number :-198
Negataive Number
PS F:\Internship2> python -u "f:\Internship2\11.py"
Enter a Number :250
Positive Number
PS F:\Internship2>
```

10. Take 3 numbers and find greatest number using nested IF...ELSE statement.

Code :

```
1 num1 = int(input("Enter number One: "))
2 num2 = int(input("Enter number Two: "))
3 num3 = int(input("Enter number Three: "))
4 print(max(num1, num2, num3), "is the Largest ")
```

Output:



The screenshot shows the Visual Studio Code interface. The Explorer panel on the left displays a file tree with various Python files. The main editor window shows the Python code for finding the largest number. The Output panel at the bottom displays the execution results.

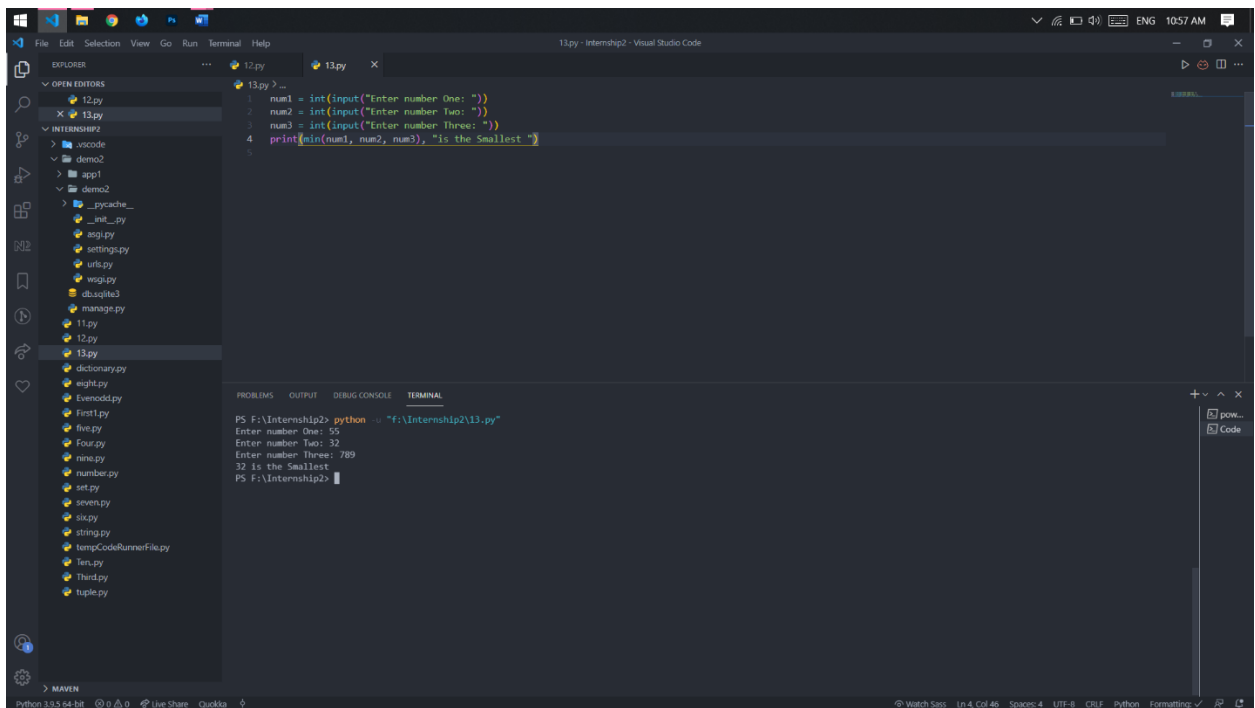
```
PS F:\Internship2> python -u "F:\Internship2\12.py"
Enter number One: 25
Enter number Two: 696
Enter number Three: 74455
74455 is the Largest
PS F:\Internship2>
```

11. Take 3 numbers and find smallest number using logical operator.

Code: -

```
1 num1 = int(input("Enter number One: "))
2 num2 = int(input("Enter number Two: "))
3 num3 = int(input("Enter number Three: "))
4 print(min(num1, num2, num3), "is the Smallest ")
5
```

Output: -



The screenshot displays the Visual Studio Code interface. The Explorer sidebar on the left shows a file tree with various Python files. The main editor window is open to a file named '13.py', which contains the following Python code:

```
1 num1 = int(input("Enter number One: "))
2 num2 = int(input("Enter number Two: "))
3 num3 = int(input("Enter number Three: "))
4 print(min(num1, num2, num3), "is the Smallest ")
5
```

Below the editor, the TERMINAL panel is active, showing the command prompt output of the script execution:

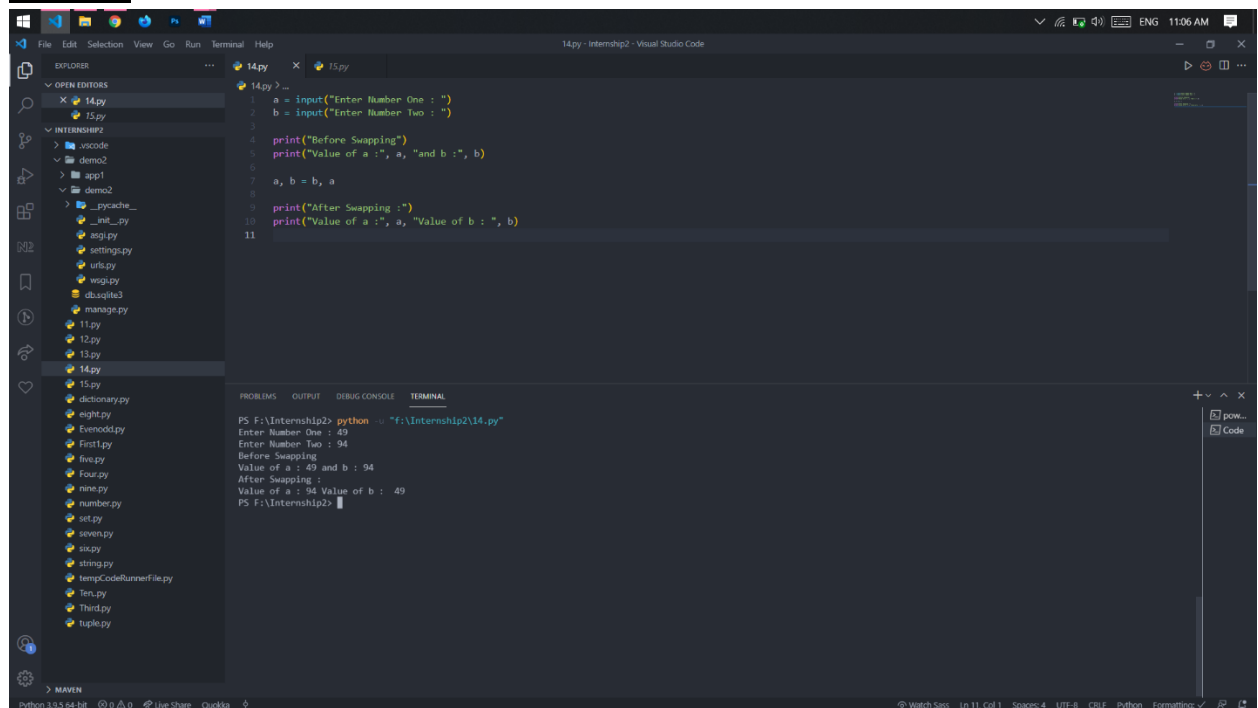
```
PS F:\Internship2> python "f:\Internship2\13.py"
Enter number One: 55
Enter number Two: 32
Enter number Three: 789
32 is the Smallest
PS F:\Internship2>
```

12. Write a program to swap 2 numbers without taking third variable.

Code:

```
1  a = input("Enter Number One : ")
2  b = input("Enter Number Two : ")
3
4  print("Before Swapping")
5  print("Value of a :", a, "and b :", b)
6
7  a, b = b, a
8
9  print("After Swapping :")
10 print("Value of a :", a, "Value of b : ", b)
```

Output:



```
PS F:\Internship2> python -u "f:\Internship2\14.py"
Enter Number One : 49
Enter Number Two : 94
Before Swapping
Value of a : 49 and b : 94
After Swapping :
Value of a : 94 Value of b : 49
PS F:\Internship2>
```

13. Take starting number and ending number from the user and print following series.

Code :

```
1  l = 0
2  u = 30
3
4
5  for num in range(l+3, u):
6      print(num)
```

Output:

