E:\lab2.py

```python
1   #Q.1 Write a program for arithmetic operators:
2
3
4   a = 10
5   b = 5
6
7
8   print("Addition:", a + b)
9
10
11  print("Subtraction:", a - b)
12
13
14  print("Multiplication:", a * b)
15
16  print("Division:", a / b)
17  print("Modulus:", a % b)
18
19
20  print("Exponentiation:", a ** b)
21
22
23  print("Floor Division:", a // b)
24
25
26  #Q.2 Write a program for assignment operators:
27
28
29  a = 10
30  print("Initial value:", a)
31
32
33  a = 5
34  print("After assignment:", a)
35
36
37  a += 5
38  print("After addition assignment:", a)
39
40
41  a -= 3
42  print("After subtraction assignment:", a)
43
44
45  a *= 2
46  print("After multiplication assignment:", a)
47
48
49  a /= 2
50  print("After division assignment:", a)
51
```

```python
52  a %= 3
53  print("After modulus assignment:", a)
54
55
56  a **= 2
57  print("After exponentiation assignment:", a)
58
59
60  a //= 2
61  print("After floor division assignment:", a)
62
63
64  #Q.3 Write a program for Bitwise operators:
65
66
67  a = 10
68  b = 4
69
70  print("Bitwise AND:", a & b)
71  print("Bitwise OR:", a | b)
72
73
74  print("Bitwise XOR:", a ^ b)
75
76
77  print("Bitwise NOT:", ~a)
78
79
80  print("Bitwise left shift:", a << 1)
81
82
83  print("Bitwise right shift:", a >> 1)
84
85
86  #Q.4 Write a program to calculate the greatest of three numbers:
87
88
89  a = 10
90  b = 20
91  c = 15
92
93
94  greatest = a if (a >= b and a >= c) else (b if b >= c else c)
95
96  print("The greatest number is:", greatest)
97
98
99  #.6 Calculate the area of a triangle:
100
101  base = float(input("Enter the base of the triangle: "))
102  height = float(input("Enter the height of the triangle: "))
103  area = 0.5 * base * height
104  print("The area of the triangle is:", area)
105
```

```
106
107  #.7 Calculate the area of a rectangle:
108
109  length = float(input("Enter the length of the rectangle: "))
110  width = float(input("Enter the width of the rectangle: "))
111  area = length * width
112  print("The area of the rectangle is:", area)
113
114  #Q.8 Calculate the area of a square:
115  side = float(input("Enter the side length of the square: "))
116  area = side * side
117  print("The area of the square is:", area)
118
119  #5
120
121  pi = 3.141592653589793
122
123
124  radius = float(input("Enter the radius of the circle: "))
125
126
127  area = pi * (radius ** 2)
128
129
130  print("The area of the circle is:", area)
131
132
133
```