

Q1: Write a program for arithmetic operators.

Ans:

```
a = int(input("Enter 1st Number: "))
b = int(input("Enter 2nd Number: "))
c = a + b
print("Add:", c)
print("Sub:", a - b)
print("Multiplication:", a * b)
print("Division:", a/b)
print("Mod:", a%b)
```

Output:

```
Enter 1st Number: 10
Enter 2nd Number: 20
Add: 30
Sub: -10
Multiplication: 200
Division: 0.5
Mod: 10
```

Q2: Write a program for assignment operators.

Ans:

```
x = int(input("Enter an initial value for x: "))
print("\nInitial value of x:", x)
x += 5
print("After x += 5, x =", x)
x -= 3
print("After x -= 3, x =", x)
```

```
x *= 2
print("After x *= 2, x =", x)
x /= 4
print("After x /= 4, x =", x)
x //= 2
print("After x //= 2, x =", x)
x %= 3
print("After x %= 3, x =", x)
x **= 2
print("After x **= 2, x =", x)
```

Q3: Write a program for Bitwise operators.

Ans:

```
a = int(input("Enter the first number: "))
b = int(input("Enter the second number: "))
bitwise_and = a & b
print(f"{a} & {b} = {bitwise_and} (Bitwise AND)")
bitwise_or = a | b
print(f"{a} | {b} = {bitwise_or} (Bitwise OR)")
bitwise_xor = a ^ b
print(f"{a} ^ {b} = {bitwise_xor} (Bitwise XOR)")
bitwise_not_a = ~a
bitwise_not_b = ~b
print(f"~{a} = {bitwise_not_a} (Bitwise NOT of {a})")
print(f"~{b} = {bitwise_not_b} (Bitwise NOT of {b})")
bitwise_left_shift_a = a << 2
bitwise_left_shift_b = b << 2
```

```
print(f'{a} << 2 = {bitwise_left_shift_a} (Left shift of {a} by 2)')
print(f'{b} << 2 = {bitwise_left_shift_b} (Left shift of {b} by 2)')
bitwise_right_shift_a = a >> 2
bitwise_right_shift_b = b >> 2
print(f'{a} >> 2 = {bitwise_right_shift_a} (Right shift of {a} by 2)')
print(f'{b} >> 2 = {bitwise_right_shift_b} (Right shift of {b} by 2)')
```

Output:

Enter the first number: 10

Enter the second number: 5

10 & 53 = 0 (Bitwise AND)

10 | 5 = 15 (Bitwise OR)

10 ^ 5 = 15 (Bitwise XOR)

~10 = -11 (Bitwise NOT of 10)

~5 = -6 (Bitwise NOT of 5)

10 << 2 = 40 (Left shift of 10 by 2)

5 << 2 = 20 (Left shift of 5 by 2)

10 >> 2 = 2 (Right shift of 10 by 2)

5 >> 2 = 1 (Right shift of 5 by 2)

Q4: Write a program to calculate greatest of three numbers.

Ans:

```
a = int(input("Enter 1st number: "))
b = int(input("Enter 2nd number: "))
c = int(input("Enter 3rd number: "))
```

if a > b and a > c:

```
    print("a is the greatest number")
elif b > c:
    print("b is the greatest number")
else:
    print("c is the greatest number")
```