In [ ]:
```
Q1. Create two int type variables, apply addition, subtraction, division, and multiplication, and store the results in variables.
Then print the data in the following format by calling the variables:
```

In [1]:
```
# Variables
a = 10
b = 5

# Operations
addition = a + b
subtraction = a - b
multiplication = a * b
division = a / b

# Output
print(f"First variable is {a} & second variable is {b}.")
print(f"Addition: {a} + {b} = {addition}")
print(f"Subtraction: {a} - {b} = {subtraction}")
print(f"Multiplication: {a} * {b} = {multiplication}")
print(f"Division: {a} / {b} = {division}")
```

```
First variable is 10 & second variable is 5.
Addition: 10 + 5 = 15
Subtraction: 10 - 5 = 5
Multiplication: 10 * 5 = 50
Division: 10 / 5 = 2.0
```

In [ ]:
```
Q2. What is the difference between the following operators:
```

In [ ]:
```
'/' & '//'

'/': Performs floating-point division, returning a decimal result.
Example: 10 / 3 = 3.3333
'//': Performs integer (floor) division, returning only the integer part of the result.
Example: 10 // 3 = 3
'**' & '^'
'**': Performs exponentiation (raises one number to the power of another).
Example: 2 ** 3 = 8
'^': Performs a bitwise XOR operation between two numbers.
Example: 2 ^ 3 = 1 (binary: 10 ^ 11 = 01)
```

In [ ]:
```
Q4. Explain right shift operator and left shift operator with examples.

Right Shift Operator (>>):
Shifts the binary representation of a number to the right, effectively dividing the number by 2 for each shift.
Example:
```

In [5]:
```
x = 8  # Binary: 1000
result = x >> 2  # Shift right by 2
print(result)  # Output: 2 (Binary: 10)
```

```
2
```

In [ ]:
```
Left Shift Operator (<<):
Shifts the binary representation of a number to the left, effectively multiplying the number by 2 for each shift.
Example:
```

In [7]:
```
x = 3  # Binary: 11
result = x << 2  # Shift left by 2
print(result)  # Output: 12 (Binary: 1100)
```

```
12
```

In [ ]:
```
Q5. Create a list containing int type data of length 15. Then write a code to check if 10 is present in the list or not.
```

In [9]:
```
# List of integers
numbers = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]

# Check if 10 is in the list
if 10 in numbers:
    print("10 is present in the list.")
```

```
else:
    print("10 is not present in the list.")
```

```
10 is present in the list.
```

In [ ]: