1. Arithmetic Operation on two numbers
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 Batch 1

In [1]:

```
num1 = int(input("Enter a number:"))
num2 = int(input("Enter a number:"))

add = num1 + num2
diff = abs(num1 - num2)
prod = num1 * num2
div = num1 / num2
div1 = num2 / num1

print("Sum =",add)
print("Difference =",diff)
print("Product =",prod)
print("Quotient(when num1 is divided by num2) = {:.2f}".format(div))
print("Quotient(when num2 is divided by num1) = {:.2f}".format(div1))
```

```
Enter a number:5
Enter a number:6
Sum = 11
Difference = 1
Product = 30
Quotient(when num1 is divided by num2) = 0.83
Quotient(when num2 is divided by num1) = 1.20
```

2. Perform all Test Cases for 40 and 30 if expexted output is 10
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In [2]:

```
num1 = 30
num2 = 40
out = 10
if((num1 + num2) == out):
    print("Addition gives the expected output")
if(abs(num1 - num2) == out):
    print("Subtraction gives the expected output")
if((num2 - num1) == out):
    print("Subtraction gives the expected output")
if((num1 * num2) == out):
    print("Multiplication gives the expected output")
if((num1 / num2) == out or (num2 / num1) == out):
    print("Division gives the expected output")
if((num1 % num2) == out or (num2 % num1) == out):
    print("Modulus gives the expected output")
if((num1 // num2) == out):
    print("Integer Division gives the expected output")
if((num1 & num2) == out or (num2 & num1) == out):
    print("'Bitwise and' gives the expected output")
if((num1 | num2) == out or (num2 | num1) == out):
    print("'Bitwise or' gives the expected output")
if((num1 ^ num2) == out or (num2 ^ num1) == out):
    print("'Bitwise XOR' gives the expected output")
```

```
Subtraction gives the expected output
Subtraction gives the expected output
Modulus gives the expected output
```

```
3. Print Characters present at indexes 0, 4 and 7 of a String
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```

In [3]:

```
string = input("Enter a String:")
print("Character Present at index 0 :",string[0])
print("Character Present at index 4 :",string[4])
print("Character Present at index 7 :",string[7])
```

```
Enter a String:Akash Kumar Singh
Character Present at index 0 : A
Character Present at index 4 : h
Character Present at index 7 : u
```

```
4. Check if the first and last number of a list is same or not
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```

In [4]:

```
lt = list(eval(input("Enter a list:")))
if(lt[0] == lt[-1]):
    print("Same")
```

```
Enter a list:1,5,2,4,9,1
Same
```

5. Initialise the variable of different types of literals and find the type
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In [5]:

```
n = 5
n1 = 5.0
n2 = 5 + 6j
boolean = True
string = "Akash"
lt = [1,2,3]
tup = (1,2,3)
dic = {"1":1,"2":2}
st = {1,2,3}

print(type(n))
print(type(n1))
print(type(n2))
print(type(boolean))
print(type(string))
print(type(lt))
print(type(tup))
print(type(dic))
print(type(st))
print(type(None))
```

```
<class 'int'>
<class 'float'>
<class 'complex'>
<class 'bool'>
<class 'str'>
<class 'list'>
<class 'tuple'>
<class 'dict'>
<class 'set'>
<class 'NoneType'>
```

6. Perform all bitwise operations
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In [6]:

```
num1 = int(input("Enter a number:"))
num2 = int(input("Enter a number:"))
print("Bitwise or :",(num1|num2))
print("Bitwise and :",(num1&num2))
print("Bitwise XOR :",(num1^num2))
print("Bitwise one's complement :",(~num1))
print("Bitwise left shift :",(num1<<2))
print("Bitwise right shift :",(num1>>2))
```

```
Enter a number:5
Enter a number:6
Bitwise or : 7
Bitwise and : 4
Bitwise XOR : 3
Bitwise one's complement : -6
Bitwise left shift : 20
Bitwise right shift : 1
```