# Practical No. 8

**Roll No. 2049**

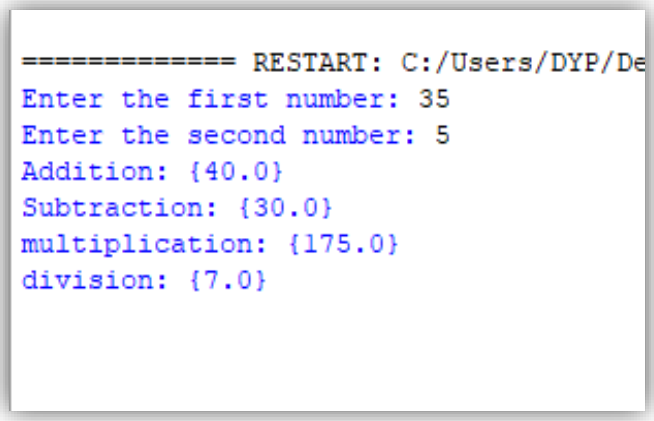
## Q1) Write a program of arithmetic operations using class.

```
class ArithmeticOperations:


    def __init__(self, num1, num2):
        self.num1 = num1
        self.num2 = num2
    def add(self):
        return self.num1 + self.num2
    def subtract(self):
        return self.num1 - self.num2


    def multiply(self):
        return self.num1 * self.num2
    def divide(self):
        if self.num2 != 0:
            return self.num1 / self.num2
        else:
            return "Cannot divide by zero!"
if __name__ == "__main__":
    num1 = float(input("Enter the first
number: "))
    num2 = float(input("Enter the second
number: "))
    calc = ArithmeticOperations(num1, num2)
    print(f"Addition:",{calc.add()})
    print(f"Subtraction:",{calc.subtract()})
    print(f"multiplication:",{calc.multiply()})
    print(f"division:",{calc.divide()})
```

## Output:



## Q2) Check the number is even or odd using class

```
class evenodd:
  def number(self,a):
    self.a=a
    if self.a%2==0:
      print(f"{a} is a even number")
    else:
      print(f"{a} is a odd number")
e=evenodd()
e.number(4)
```

```
4 is a even number
```

## Q3) Find the area of the circle using class

```
import math
class area:
  def area(self,r):
    self.r=r
    result=3.14*r*r
    print(f"The area of circle is {result}")
a=area()
a.area(4)
```

```
The area of circle is 50.24
```

## Q4) Check the number is even or odd using class

```
class number:
  def check(self,n):
    self.n=n
    if(n>0):
      print(f"{n} is positive number")
    else:
      print(f"{n} is negative number")

no=number()
no.check(4)
```

```
4 is positive number
```

## Q5) Check the given number is Armstrong or not using class

```python
class Armstrong:
    def is_armstrong(self, num):
        num_str = str(num)
        num_digits = len(num_str)

        armstrong_sum = sum(int(digit) ** num_digits for digit in num_str)

        return armstrong_sum == num

checker = Armstrong()

num = int(input("Enter a number: "))
if checker.is_armstrong(num):
    print(f"{num} is an Armstrong number.")
else:
    print(f"{num} is not an Armstrong number.")
```

```
Enter a number: 153
153 is an Armstrong number.
```

## Q6) Print Fibonacci sequence  using class

```python
class Fibonacci:
    def generate(self, n):
        fib_sequence = [0, 1]

        for _ in range(n - 2):
            next_term = fib_sequence[-1] + fib_sequence[-2]
            fib_sequence.append(next_term)

        return fib_sequence[:n]

fib = Fibonacci()

num_terms = int(input("Enter the number of Fibonacci terms: "))

print(f"Fibonacci Sequence: {fib.generate(num_terms)}")
```

```
Enter the number of Fibonacci terms: 10
Fibonacci Sequence: [0, 1, 1, 2, 3, 5, 8, 13, 21, 34]
```