

```
1.class Arith:
    def __init__(self):
        self.a = 0
        self.b = 0

    def read(self):
        self.a = float(input("Enter first number: "))
        self.b = float(input("Enter second number: "))

    def add(self):
        return self.a + self.b

    def subtract(self):
        return self.a - self.b

    def multiply(self):
        return self.a * self.b

    def divide(self):
        if self.b != 0:
            return self.a / self.b
        else:
            return "Cannot divide by zero"
```

```
2.class Rectangle:
    def __init__(self, length, breadth):
        self.length = length
        self.breadth = breadth

    def area(self):
        return self.length * self.breadth
```

```
3.class Car:
    def __init__(self, model, year, price):
        self.model = model
        self.year = year
        self.price = price

    def cost(self):
        print(f"The price of {self.model} ({self.year}) is {self.price}")
```

```
car1 = Car("Toyota Corolla", 2020, 15000)
car2 = Car("Honda Civic", 2022, 18000)
```

```
car1.cost()
car2.cost()
```

```
4.class Car:
```

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```

```
car1 = Car("Toyota Corolla", 2020, 15000)
car2 = Car("Honda Civic", 2022, 18000)
```

```
car1.cost()
car2.cost()
```

5.class Person:

```
def __init__(self, name, age, salary):
    self.name = name
    self.age = age
    self.salary = salary

def display(self):
    print(f"Name: {self.name}, Age: {self.age}, Salary: {self.salary}")
```

```
p1 = Person("Alice", 30, 50000)
p2 = Person("Bob", 28, 60000)
```

```
p1.display()
p2.display()
```

6.class Mobile:

```
def __init__(self):
    self.company = ""
    self.model = ""
    self.price = 0

def set_details(self, company, model, price):
    self.company = company
    self.model = model
    self.price = price

def display_details(self):
    print(f"Company: {self.company}, Model: {self.model}, Price: {self.price}")
```

```
m1 = Mobile()
m1.set_details("Samsung", "Galaxy S21", 70000)
m1.display_details()
```

7.class Student:

```

def __init__(self):
    self.rollno = 0
    self.mark1 = 0
    self.mark2 = 0
    self.total = 0

def readData(self, rollno, mark1, mark2):
    self.rollno = rollno
    self.mark1 = mark1
    self.mark2 = mark2

def computeTotal(self):
    self.total = self.mark1 + self.mark2

def printDetails(self):
    print(f"Roll No: {self.rollno}, Mark1: {self.mark1}, Mark2: {self.mark2}, Total: {self.total}")

```

```

s1 = Student()
s1.readData(101, 85, 90)
s1.computeTotal()
s1.printDetails()

```

8.class Book:

```

def __init__(self):
    self.title = ""
    self.author = ""
    self.cost = 0

def get_details(self, title, author, cost):
    self.title = title
    self.author = author
    self.cost = cost

def print_details(self):
    print(f"Title: {self.title}, Author: {self.author}, Cost: {self.cost}")

```

```

b1 = Book()
b1.get_details("The Alchemist", "Paulo Coelho", 350)
b1.print_details()

```

9.class Rectangle:

```

def __init__(self, height, width, corner_x, corner_y):
    self.height = height
    self.width = width
    self.corner_x = corner_x
    self.corner_y = corner_y

def find_center(self):

```

```
center_x = self.corner_x + self.width / 2
center_y = self.corner_y + self.height / 2
return (center_x, center_y)
```

```
def area(self):
    return self.height * self.width
```

```
def perimeter(self):
    return 2 * (self.height + self.width)
```

```
r = Rectangle(10, 20, 0, 0)
center = r.find_center()
area = r.area()
perimeter = r.perimeter()
```

```
print(f"Center: {center}")
print(f"Area: {area}")
print(f"Perimeter: {perimeter}")
```

10.class Complex:

```
def __init__(self, real, imag):
    self.real = real
    self.imag = imag
```

```
def __add__(self, other):
    return Complex(self.real + other.real, self.imag + other.imag)
```

```
def display(self):
    print(f"{self.real} + {self.imag}i")
```

```
c1 = Complex(3, 4)
c2 = Complex(1, 2)
c3 = c1 + c2
c3.display()
```