CosmiCode

Educating the Next Wave of Tech Pioneers.

Week 5 Tasks

- **Task 1:** Define a class for a bank account with attributes for account number, balance, and owner name. Include methods for deposit, withdrawal, and transfer.

- **Task 2:** Implement a class hierarchy to represent geometric shapes (e.g., Circle, Rectangle, Triangle) with methods to calculate area and perimeter.

- **Task 3:** Create a program to demonstrate the concept of inheritance by creating a base class for a vehicle and derived classes for car and bike.

- **Task 4:** Write a program to implement operator overloading for complex number arithmetic.

- **Task 5:** Implement a program that demonstrates polymorphism by creating a base class and derived classes with overridden methods.

- **Task 6:** Create a program to manage a library system using classes, including methods for adding, removing, and displaying books.

- **Task 7:** Implement a class to handle basic file operations (reading, writing, appending) for text files.

Multan, Pakistan

+92 304 5892020

cosmicodepk@gmail.com

CosmiCode

Educating the Next Wave of Tech Pioneers.

Week 5 Guide

Objective: Understand and apply object-oriented programming concepts in Python.

- Task 1: Define and use classes and objects for a bank account. Refer to W3Schools Python Classes.
- Task 2: Implement a class hierarchy for geometric shapes and calculate area and perimeter. Refer to W3Schools Python Inheritance.
- Task 3: Create a base class for a vehicle and derived classes for car and bike. Refer to W3Schools Python Inheritance.
- Task 4: Implement operator overloading for complex numbers. Refer to W3Schools Python Operator Overloading.
- Task 5: Demonstrate polymorphism using base and derived classes with overridden methods. Refer to W3Schools Python Polymorphism.
- Task 6: Manage a library system using classes. Learn about file handling for adding, removing, and displaying books.
- Task 7: Implement file operations using classes for text files. Refer to W3Schools Python File Handling.

Multan, Pakistan

+92 304 5892020

cosmicodepk@gmail.com