



CPP-A12: Class and Object

Assignment 1: Student Registration System

Problem Statement:

Create a `Student` class with the following private attributes:

- Name (`string`)
- Roll Number (`int`)
- Marks (`double`)

The class should have:

- A parameterized constructor to initialize these values.
- A member function to display student details.

Input:

A single student's name, roll number, and marks.

Output:

Display the student information using the member function.

Assignment 2: Rectangle Area Calculator

Problem Statement:

Create a class `Rectangle` with attributes `length` and `breadth`.

The class should have:

- A parameterized constructor to initialize the dimensions.
- A member function `calculateArea()` to return the area of the rectangle.

Input:

Length and breadth of a rectangle.

Output:

Print the area of the rectangle.

Assignment 3: Bank Account Management

Problem Statement:

Create a class `BankAccount` with attributes `accountHolderName`, `accountNumber`, and `balance`.

- Create a constructor to initialize these values.
- Create functions to:
 - Deposit money
 - Withdraw money (only if the balance is sufficient)
 - Display account details

Input:

Initial account information, followed by deposit and withdrawal amounts.

Output:

Account details after each operation.

Assignment 4: Employee Payroll System

Problem Statement:

Create a class `Employee` with attributes `name`, `ID`, and `salary`.

- Create a constructor to initialize the values.
- Write a member function `displayEmployeeDetails()` to show the details.

Input:

Employee name, ID, and salary.

Output:

Display the employee information in a formatted manner.

Assignment 5: Simple Calculator

Problem Statement:

Create a class `Calculator` with attributes `num1` and `num2`.

- Create a constructor to initialize the values.

- Write functions for addition, subtraction, multiplication, and division.

Input:

Two numbers and an operator.

Output:

Result of the selected operation.

Assignment 6: Bookstore Inventory

Problem Statement:

Create a class `Book` with attributes `title`, `author`, `price`.

- Create a constructor to initialize these values.
- Write a function `displayDetails()` to display book information.

Input:

Details of 3 books.

Output:

Display the details of all books in a formatted manner.

Assignment 7: Distance Converter

Problem Statement:

Create a class `DistanceConverter` with attributes `meters`.

- Create a constructor to initialize the distance in meters.
- Write functions to convert the distance to kilometers and centimeters.

Input:

Distance in meters.

Output:

Converted distance in kilometers and centimeters.

Assignment 8: Circle Operations

Problem Statement:

Create a class `Circle` with attributes `radius`.

- Create a constructor to initialize the radius.
- Write functions to calculate the area and circumference of the circle.

Input:

Radius of a circle.

Output:

Area and circumference of the circle.

Assignment 9: Movie Ticket Booking System

Problem Statement:

Create a class `Movie` with attributes `title`, `duration`, and `ticketPrice`.

- Create a constructor to initialize the values.
- Write functions to book tickets and calculate total revenue after multiple bookings.

Input:

Movie details and number of tickets to book.

Output:

Total revenue generated from the bookings.

Assignment 10: Car Rental System

Problem Statement:

Create a class `Car` with attributes `carName`, `carNumber`, and `rentPerDay`.

- Create a constructor to initialize the car information.
- Write functions to calculate the total rent for a given number of days.

Input:

Car information and rental period.

Output:

Total rent amount.

Happy Coding!