Object Oriented Programming (CT-260)

Lab Session:04 Static and Const Keywords

Problem:01

Create a class that assigns a unique ID to each object using a static data member.

Description:

Design a class Employee where each new object gets a unique ID starting from 1. Use a static variable to track how many employees were created so far and assign new IDs accordingly.

Problem:02

Write a function int callCounter() that returns how many times it has been called so far.

Hint: Use a static local variable in the function.

Problem:03

Write a class Maths with a static method int gcd(int a, int b) that returns the greatest common divisor of two numbers. Call this function without creating an object.

Problem:04

Create a class Rectangle with width and height data members.

Implement a getArea() function marked as const so it can be called on a const object and doesn't modify the object.

Hint: Use const member function to return computed value.

Problem:05

Write a C++ program that stores numbers in an array and uses a pointer to const to iterate and print all values. The pointer should not modify the values it points to.

Hint: pointer to const usage (const int *p).

Problem:06

Create a class Student with:

-private: rollNo

-constructor to initialize roll number

-function getRoll() that returns roll number

Now create a const object of Student and print its roll number.

-getRoll() must be const function

-Object must be const

-Program should compile and print roll number