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| **Object Oriented Programming Lab 06** | | | |
| **Course Code:** | COMP-112L | **Class** | CS (B) |
| **Lab Engineer** | Laiba Khalid | **Semester** | 2nd |
| **Lab Title** | C++ Classes | **Section** | - |
| **Name** |  | **Reg no.** |  |
| **Content Covered** | C++ Class Implementation. | | |
| **Instructions:**  • Submit the file with your names following your registration numbers like AI001\_Name.  • Submit soft copy of the report before deadline. Marks will be deducted for late submissions. | | | |

**Lab Tasks**

**Real-World Scenario: Digital Speedometer in a Car**

In modern vehicles, a **digital speedometer** constantly displays the speed of the car. The **maximum speed limit** of the car is a fixed value that does not change for a given model. The speedometer also has a function that retrieves the current speed but does not modify any class attributes.

**Key Concepts:**

* **Constant Data Member (const variable)** → The maximum speed limit of the car.
* **Constant Member Function (const function)** → A function that retrieves the current speed but does not modify any class attributes.

1. Write a C++ program to create a class Rectangle with a **constant data member** for the width and a **non-constant data member** for the height. Use an initialization list to set the width.
2. Write a C++ program to create a class Circle with a **constant function** to calculate the area and a **non-constant function** to modify the radius. Demonstrate calling both functions.