



Course Code: CL-1000	Course: Introduction to Information and Communication Technology (IICT)
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Question 1: C++ Inheritance – Zoo Management System

Write a C++ program to simulate a zoo management system using inheritance.

1. Define a base class called Animal with the following private attributes:
 - o name (string)
 - o age (int)

Provide public getter and setter methods to access and modify these attributes.

2. Implement a public method displayInfo() in the Animal class that displays the animal's name and age.
3. Create three derived classes that inherit from the Animal class:
 - o **Mammal**: Add a method feedBaby() that prints "Feeding baby mammal."
 - o **Bird**: Add a method layEgg() that prints "Laying an egg."
 - o **Reptile**: Add a method shedSkin() that prints "Shedding skin."
4. In the main() function, create objects of the Mammal, Bird, and Reptile classes. For each object:
 - o Set the name and age using setter methods.
 - o Call the displayInfo() method to display the animal's name and age.
 - o Call the respective method (feedBaby(), layEgg(), or shedSkin()) to demonstrate specialized behavior in each class.

Question 2: C++ Inheritance – Employee and Student Management System

Write a C++ program that simulates an employee and student management system using inheritance.

1. Define a base class called Person with the following private attributes:
 - o name (string)
 - o age (int)

Provide public getter and setter methods for these attributes.

2. Implement a virtual method displayInfo() in the Person class to display the name and age.
3. Create two derived classes that inherit from the Person class:

- **Employee:** Add a private attribute `employeeID` (int) and override the `displayInfo()` method to display the name, age, and employee ID.
 - **Student:** Add a private attribute `studentID` (int) and override the `displayInfo()` method to display the name, age, and student ID.
4. In the `main()` function, create objects of the `Person`, `Employee`, and `Student` classes. For each object:
- Set the name and age using setter methods.
 - Set the employee/student ID as required.
 - Call the `displayInfo()` method on each object to display the appropriate details.