**Expt no: 06 Date:**18Nov2021

**Title:** INHERITANCE AND POLYMORPHISM

**Aim:** TO WRITE C++ PROGRAMS TO IMPLEMENT THE FOLLOWING

## Program to read and print employee information with department and loan information using hierarchical inheritance program in C++.

## Class BasicInfo: name, empID, gender

## Class DeptInfo: deptName, designation, salary

## Class LoanInfo: LoanType, Amount

## Program to implement Hybrid inheritance

## Write a Program to design a student class representing student roll no. and a test class (derived class of student) representing the scores of the student in various subjects and sports class representing the score in sports. The sports and test class should be inherited by a result class having the functionality to add the scores and display the final result for a student

## Program to initialize base class data members using constructors in derived class

## Class Person: name, age

## Class FootballPlayer: team, numberOfGoals

## Program to show run time behaviour of virtual functions.

## A class shape having 2 ints as data members is inherited by class rectangle and class triangle. Write a function area that returns the area of triangle and rectangle as class members of Class Triangle and Rectangle respectively. Use the object of class shape to invoke the functions.

## Consider a book shop which sells both books and video-tapes. Create a class known as media that stores the title publication. Create two derived classes, one storing the number of pages in a book and another for storing the playing time of a tape. Implement Run time polymorphism by using display() in the classes. Display() displays contents of tapes and books

**Theory:**

* *Explain Inheritance and Polymorphism*
* *Types of Inheritance (Illustrate with diagrams for each type)*
* *Write a note about: static / dynamic (early/late binding), compile time and runtime Polymorphism, virtual functions and pure virtual functions.*

**Output:** *paste code and snapshot of output (invert the window colours (white background and black text before your take the snapshot).*

**Conclusion:**