

LAB 8

RUNTIME POLYMORPHISM IN C++

In this lab, students shall write and run different programs related to *polymorphism* in C++ programming language. Following programs with different task number shall be covered in this lab:

Task #1:

Write a program to create a class **shape** with functions to find the area of the shapes. Create derived classes **circle**, **rectangle**, and **triangle** each having overriding functions `area()` and `display()` to illustrate *virtual functions*.

Task #2:

Write a program to create an abstract class **shape** with functions to find the area of the shapes. Create derived classes **circle**, **rectangle**, and **triangle** each having overriding functions `area()` and `display()` to illustrate *pure virtual functions*.

Task #3:

WAP in CPP to illustrate the concept of *virtual destructors*.

Task #4:

Create a polymorphic class **Shape** and create other derived classes **Circle**, **Rectangle**, and **triangle** from **Shape**. Illustrate RTTI by the use of *dynamic_cast* and *typeid* operators in this program.