ASSIGNMENT NO: 3

Aim:

Implementation of Polymorphism using C++ and JAVA

Problem Statement 1A:
Write a C++ program with base class Employee and three derived classes namely
- salaried employees
- commission_employees and
- hourly employees

Declare calculate_salary() as a pure virtual function in base class and define it in respective derived classes to calculate salary of an employee.

The company wants to implement an Object Oriented Application that performs its payroll calculations polymorphically.

Problem Statement_1B_Implementing Method Overloading_using Java

Define a class Shapes as

1. Circle

2. square and

3. rectangle.

Find the area of these shapes using constructor overloading and method overloading.

Problem Statement_Assignment 1C_Implementing Method Overriding_using Java

Create a parent class Hillstations with the methods location() and famousfor().

Create three subclasses by hill station names e.g. Manali, Shimla etc.

Subclasses extend the superclass and override methods location() and famousfor().

Call the methods location() and famousfor() by the Parent class, i.e. Hillstations class.

It should refer to the base class object and the base class method overrides the superclass method, base class method is invoked at runtime.

Objectives:

1. To understand the use of pure virtual function.

2. To understand implantation of compile time and runtime polymorphism.

3. To learn implementation of method overriding in java

Theory:

==Explain following concepts with their syntax and appropriate example in C++ and Java==

- Concept of compile time polymorphism

- Concept of run time polymorphism

- Use of pure virtual function

Platform:

- Windows / 64-bit Open source Linux or its derivatives.

- Eclipse IDE with C++ and Java Programming tool like Eclipse / Netbeans.

Input:

Students should write input provided

Output:
Students should write output obtained

Conclusion:

Thus, learnt to use of polymorphism and implemented solution of the given problem statement using C++ and Java.

FAQs:

1) Discuss use of virtual function.
2) What's the difference between early binding and late binding?
3) Explain the use of abstract keyword in java with example
4) State features of abstract base class.

*Attach copy of Implemented C++ and Java Code with snap of output