



Rajarata University of Sri Lanka

Faculty of Applied Sciences

B.Sc in Information and Communication Technology

ICT 1306 (Object Oriented Programming)

Practical 07

Outline

- Overloading
- Overriding
- Virtual function

Outcome

At the end of this session students should be able to:

- Get knowledge about the Polymorphism.

1. Create a class called shape with float type constant data member PI. Initialize PI to 3.14 by using a constructor. Create three void area functions to print calculated area of a circle, rectangle and a triangle depending on the user input values. Allow user to enter a choice.

Choice =1, call the area () to find area of circle with one integer argument.

Choice =2, call the area () to find area of rectangle with two integer arguments.

Choice =3, call the area () to find area of circle with three arguments, two as integers and one as float.

2. Create suitable classes to map below picture using OOP concept.



3. Create a class called Employee with string type name, string type empNo and int type noOfWorkingDays as data members and getEmpData() member function to get values to the data members as keyboard input and paySalary() which return type int. Output the statement "Your salary : This is parent class" inside **paySalary()**.

Create a class called Manager which inherit Employee class with constant int type mBasic data member. Use a default constructor to initialize mBasic into Rs. 5000. Create **paySalary()** which return type int and inside that function calculate the managers' salary by using following equation.

Manager Salary = mBasic * noOfWorkingDays

Create another class called Supervisor which inherit Employee class with constant int type sBasic, constant int type otRate and int type otHours as data members. Use a default constructor to initialize sBasic into Rs. 1500 and otRate into Rs. 125. Create a member function called getSupData() in order to get no of overtime hours as keyboard input and another member function called **paySalary()** which return type int and inside that function calculate the supervisors' salary by using following equation.

Supervisor Salary = (sBasic * noOfWorkingDays) + (otRate * otHours)

Inside main function create an object type pointer, an object from Manager class and another object from Supervisor class. Store the address of Manager in object type pointer which you have created and call getEmpData() and paySalary(). Do the same with the Supervisor object as well. (Note: getSupData() not use polymorphism)

What will be the output?

Declare paySalary() in the base class with virtual keyword.

What will be the output?

Next Practical: Data Abstraction