**Containment,** **Inheritance & Polymorphism**

1. Write a class Student having following –
   1. Student Roll Number (int)
   2. Student Name (String)
   3. Date of Birth (Date class object where Date is user defined class)

Implement default constructor, parameterized constructor, accept, display. Generate the student roll number automatically.

1. Construct a hierarchy of employees.

a. Create an Employee class with attributes like employee id, name, date of birth.

b. Inherit class WageEmployee from super class Employee

c. WageEmployee class should have following members

a. Number of hours worked

b. Rate per hour

d. Inherit class SalesPerson from super class WageEmployee. SalesPerson should have following members

a. Number of items sold

b. Commission per item

e. Write constructors for WageEmployee and SalesPerson classes.

f. Override the methods for displaying details, calculating salary in WageEmployee and SalesPerson class.

WageEmployee Salary = hours \* rate

SalesPerson Salary = hours\*rate + sales\*commission

1. Construct a hierarchy of employees.

1. Create an Employee class with attributes like employee id, name, basic salary.

2. Inherit class Manager and MarketingExecutive from super class Employee

3. Manager class should have following members

a. Petrol Allowance: 8% of basic salary

b. Food Allowance: 12% of basic salary

c. Other Allowance: 4% of basic salary

4. MarketingExecutive class should have following members

a. Kilometers travelled

b. Tour Allowance: Rs.5/- per kilometer

c. Telephone Allowance Rs.2000/-

5. Write constructors for the derived classes. (Use super keyword)

6. Implement methods - display, calculateGrossSalary and calculateNetSalary in Manager

and MarketingExecutive class.

gross salary = basic salary + allowances

net salary = gross salary - PF

PF = 12.5% of basic salary

Create objects of above classes inside main method and display them.