

ASSIGNMENT IV

(Inheritance)

1. Write a program that defines a shape class with a constructor that gives value to width and height. Then define two sub-classes triangle and rectangle, that calculate the area of the shape. In the main, define two objects a triangle and a rectangle and then call the area () function.
2. Write a program with a mother class animal. Inside it define a name and an age variables, and set_value () function. Then create two sub class Zebra and Dolphin which write a message telling the age and name of animal, also giving some extra information for both sub class (e.g. place of origin).place of origin of zebra is Earth and place of origin of dolphin is water.
3. Write a program as per following details
Create one base class Teacher
Data members Name, Department, College name, Email id.
Create sub classes for Math Teacher, English Teacher, and Science Teacher Data member Qualification, Expertise and salary.
Display following details for each teacher
Name:
Department:
College name:
Email id:
Qualification:
Expertise:
Salary:
4. Write a program as per following details
Create one base class MEDICINE with following data members
Category- (i.e. **stimulants, inhalants, cannabinoids**)
Date_of_manufacture, Company name
Create one sub class TABLET derived from MEDICINE with following data members
Tablet name, Price
Create one sub class PainReliever derived from TABLET with data member
Dosage_units: i.e(1 or 2 or 3)
Side_effects : i.e (Nausea, Drowsiness, Dizziness.) Use_within_days: i.e(10 or 20 or 30).
Use appropriate member function for setting and Getting above details and display details in main function.

5. Write a program as per following details

Create one base class HOTEL with following data members

Hotel_name,

Hotel_type i.e(Three star,five star)

City

Hotel_rate i.e(2000,3000,5000)

Create one base class FLIGHT with following data members

Flight_no

Source city

Destination city

Seat no

Create one sub class PASSENGER derived from HOTEL and FLIGHT with following data members Name, Age, city

Write appropriate member functions in each class and display all information in main

6. Write a program as per following details

Create one base class PERSON with following data members

Name, College name

Create one sub class STUDENT derived from PERSON with following data members

Student_id , Marks of five subject, percentage Member function:

showResult()-Calculate total,percentage and finding class(Dist,First,second,pass)

Create one sub class EMPLOYEE derived from PERSON with following data members

Emp_id, qualification , basic salary

Member function to calculate Net salary and print Net salary

DA=18% of Basic salary

HRA=10% of Basic salary

TA=500

Income tax=5 % of basic salary, if basic salary >50000

Income tax=0, if Basic salary <=50000

Netsalary=(basicsalary+da+hra+ta) - income tax

Write appropriate setter function in each class and display detail of student and employee in main.

