Assignment 5

**Question 1:** Construction the following inheritance hierarchy:

class: Person

Data members: Hobby (String) = “Reading”  
 name (String)

Constructor : Person( name : String )

Functions: getName() : String

introduce()

class: Student extends Person

Data members: Hobby (String) = “Facebook”

Constructor : Student( name : String )

class: CSEStudent extends Student

Data members: Hobby (String) = “Hacking”

Constructor : CSEStudent( name : String )

A typical way to introduce oneself is "Hello, my name is xxx and my hobby is yyy".  
(*Hint: use a combination of the getName() method and the HOBBY String constant*)

Arif is a CSE Student at IEM, who secretly moonlights as a hacker. Have Arif introduce himself

(1) at a get-together for student leaders of various colleges in Salt Lake

(2) at a closed-door Hacker Society meeting

(3) at his cousin's birthday party where he meets a beautiful girl who is a Tagore fan.

**Code:**

import java.util.\*;

class Person

{

String hobby = "Reading", name;

Person(String name)

{

this.name = name;

}

String getName()

{

return name;

}

void introduce()

{

System.out.println("I love "+hobby);

}

}

class Student extends Person

{

Student(String name)

{

super(name);

hobby = "Facebook";

}

}

class CSEStudent extends Student

{

CSEStudent(String name)

{

super(name);

hobby = "Hacking";

}

}

class Test

{

public static void main(String[] args)

{

System.out.println("Enter 1 to introduce before student leaders");

System.out.println("Enter 2 to introduce before Hacker society");

System.out.println("Enter 3 to introduce before cousin's birthday");

Scanner sc = new Scanner(System.in);

int ch = sc.nextInt();

String name = sc.next();

switch(ch)

{

case 1: Person obj = new Person(name);

obj.introduce();

break;

case 2: CSEStudent obj1 = new CSEStudent(name);

obj1.introduce();

break;

case 3: Student obj2 = new Student(name);

obj2.introduce();

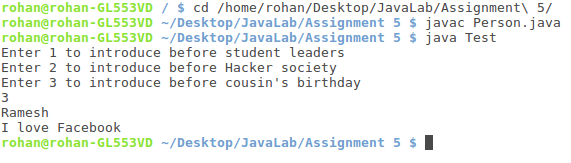
break;

}

}

}

**Input/Output:**

****

**Question 2:** Write a JAVA program to store the time in hh min sec in a Timer class with both default and parameterised constructors. Write functions to add two Timer objects and then display the result.

**Code:**

import java.util.\*;

class Timer

{

int hour, min, sec;

Timer()

{

hour = 0;

min = 0;

sec = 0;

}

Timer(int a, int b, int c)

{

hour = a;

min = b;

sec = c;

}

static Timer add(Timer obj1, Timer obj2)

{

Timer ans = new Timer();

ans.sec = obj1.sec + obj2.sec;

ans.min += (ans.sec / 60);

ans.sec %= 60;

ans.min += obj1.min + obj2.min;

ans.hour += (ans.min / 60);

ans.min %= 60;

ans.hour += obj1.hour + obj2.hour;

return ans;

}

void display()

{

System.out.printf("hh: %d min: %d sec: %d\n", hour, min, sec);

}

}

class Test

{

public static void main(String[] args)

{

Scanner sc = new Scanner(System.in);

System.out.println("Enter first time:");

int a = sc.nextInt();

int b = sc.nextInt();

int c = sc.nextInt();

Timer obj1 = new Timer(a, b, c);

System.out.println("Enter second time:");

a = sc.nextInt();

b = sc.nextInt();

c = sc.nextInt();

Timer obj2 = new Timer(a, b, c);

Timer obj3 = Timer.add(obj1, obj2);

System.out.println("Added time is:");

obj3.display();

}

}

**Input/Output:**

