LAB 4 and LAB5 03-11-2020

Abstract class program:

```
import java.util.Scanner;
abstract class shape
 {
  int a, b;
  abstract void printArea();
  }
  class Rectangle extends shape
   {
    void printArea()
     {
      System.out.println("Area of Rectangle = " + a*b);
     }
   }
  class Triangle extends shape
   {
    void printArea()
     {
      System.out.println("Area of Triangle = " +(a*b)/2);
     }
   }
```

```
class circle extends shape
{
  void printArea()
  {
    System.out.println("Area of circle=" + (3.14*a*a));
  }
}

class shapemain
{
  public static void main(String args[])
  {
    Scanner sc = new Scanner(System.in);
    Rectangle r = new Rectangle();
    Triangle T = new Triangle();
    Circle c = new circle();
    System.out.println("Enter length and breadth:");
    r.a = sc.nextInt();
    r.b = sc.nextInt();
    r.printArea();
    System.out.println("Enter height and base:");
    t.a = sc.nextInt();
    t.b = sc.nextInt();
    t.printArea();
    System.out.println("Enter radius:");
    c.a = sc.nextInt();
    c.printArea();
  }
}
```

Inheritance (Bank) Program:

```
import java.util.*;
class account
 {
 private string name;
 private long account number;
 private int account type;
  double balance;
  void get data()
   {
   Scanner sc = new scanner(System.in);
   System.out.println("Enter your name");
    name = sc.next();
   System.out.println("Enter account number");
    account number = sc.nextLong();
    System.out.println("Choose the account type");
    System.out.println("1. savings account");
    System.out.println("2. current account");
     account_type = sc.nextInt();
   }
  int return_account_type()
    { return account_type
    }
 }
class savings extends account
  {
   scanner sc = new Scanner(System.in);
     double amount;
     Void get_sav_balance()
      {
    System.out.println("Enter the amount to be
placed in your savings account");
     amount = sc.nextDouble();
      balance + = amount;
```

```
}
void display_sav_balance()
  {
    System.out.println("balance = " + balance);
  }
void compute_sav_interest()
  {
  System.out.println("Interest of 5% shall be
    added to your balance");
    balance = balance + (.05 * balance);
  }
Void withdraw_sav()
  {
  System.out.printlen("enter the amount to be
    withdrawn");
    amount = sc.nextDouble();
    balance = balance - amount;
  }
}
class current extends account
 {
 Scanner sc = new Scanner(System.in);
  double amount;
  final double min_balance = 5000;
   void get_cur_balance()
   {
   System.out.println("enter the amount to be plced
    in your current account");
    amount = sc.nextDouble();
     balance += amount;
   }
```

```
void displaycurbalance()
 {
 System.out.println("balance = "+balance);
 }
void computecurservicecharges()
 {
   if (balance <minbalance)
   {
  System.out.println("service tax of Rs500 shall be
                                levied");
   balance = balance -500;
   }
  else
   {
   System.out.println("minimum balance is maintained");
   }
 }
void withdrawcur()
 {
  System.out.println("enter the amount to be
                withdrawn");
    amount = sc.nextDouble();
     balance = balance -amount;
     }
}
class bankmain
 {
  public static void main(String args[])
   {
    int type;
   System.out.println("enter the bank details");
    account a = new account();
        a.getdata();
```

```
type = a.return_account_type();
if (type == 1)
{
System.out.println("Savings Account");
Savings sav = new Savings();
Sav.get_sav_balance();
Sav.display_sav_balance();
Sav.compute_sav_interest();
Sav.display_sav_balance();
sav.withdraw_sav();
Sav.display_sav_balance();
}
if (type == 2)
{
System.out.println("Current Account");
Current cur = new current();
cur.get_cur_balance();
cur.display_cur_balance();
cur.compute_cur_service_charges();
cur.display_cur_balance();
cur.withdraw_cur();
cur.display_cur_balance();
}
}
}
```