Week 8

Lab program. 4

```java
import java. util. Scanner;
abstract class Shape
{
    int d1;
    int d2;
    Shape (int a, int b)
    {
        d1 = a;
        d2 = b;
    }
    abstract void print area();
}
class Rectangle extends Shape
{
    Rectangle (int a, int b)
    {
        super (a, b);
    }

    Void print area()
    {
```

```java
        float area = (float)d1 * d2.
        System.out.println ("Area of the rectang."
                                     + area);
    }
}
class Triangle extends Shape
{
    Triangle (int a, int b)
    {
        super (a, b);
    }
    void print area ()
    {
        float area = (float)d1 * d2/2.
        System.out.println ("Area of the triangle."
                                     + area);
    }
}
class Circle extends Shape
{
    Circle (int a, int b)
    {
        super (a, b);
    }
```

```java
void printarea()
{
    float area=(float)3.14* dj* dl.
    System. out. println (" Area of the circle.
                          + area);
}
}

class Mars
{
    public static void main (String args[])
    {
        int ch, flag =0;
        Scanner ss= new Scanner (System. in)
        while (flag ==0)
        {
            System. out. print ln (" Enter the choice
                   whose area has to be calculated ").
            System. out. print ln (" 1. RECTANGLE \n
                   2. TRIANGLE\n3. CIRCLE ").
            ch=ss. next Int ();
            switch (ch)
            {
                case 1 :
                system. out. println (" Enter the
                       dimensions of rectangle ").
```

```java
int x = ss.nextInt();
int y = ss.nextInt();
Rectangle r = new Rectangle (x, y);
r.printarea();
break;
Case 2:
System.out.println("Enter the dimen
      -sions of triangle");
int s = ss.nextInt();
int w = ss.nextInt();
Triangle t = new Triangle (s, w);
t.printarea();
break;
Case 3:
System.out.println("Enter the radius
                    of circle");
int f = ss.nextInt();
Circle c = new Circle (f, f);
c.printarea();
break;
default;
flag=1;
```

4 3 3 3

Lab program 5

```java
import java.util.Scanner;
abstract class Account
{
    String  cust_name;
    long    acc_no;
    String  acc_type;
    double  balance;
    double  min_bal = 1000.0;
Account (String cust_name, long acc_no,
          String acc_type, double balance)
{

    this.cust_name = cust_name;
    this.acc_no = acc_no;
    this.acc_type = acc_type;
    this.balance = balance;
}
abstract void deposit (double amount);
abstract void display ();
abstract void withdrawal (double amount);
}
```

```java
class Curr_acct extends Account
{
    double penalty = 100.0;
    Curr_acct (String cust_name, long acc_no,
                String acc_type, double balance)
    {
        super ( cust_name, acc_no, acc_type,
                                    balance);
        System.out.println ("Name of the customer:"
                                    + cust_name);
        System.out.println ("Account Number acno:"
                                    + acc_no);
        System.out.println ("Account type:" +
                                    acc_type);
        System.out.println ("Balance:" + balance);
    }

    void deposit (double amount)
    {
        this.balance = this.balance + amount;
    }

    void withdrawal (double amount)
    {
```

```
        this. balance = this. balance - amount;
        imposepenalty ();
        System. out. println (" The current balan.
                is " + balance);
    }

    void impose penalty ()
    {
        if (this. balance < min - bal)
        {
            this. balance = this. balance - penalty;
            System. out. println (" The balance amount.
                is insufficient, the penalty
                imposed = 100Rs");
        }
    }

    void display ()
    {
        System. Out. println (" Balance is : " + this.
                                            balance);
    }
}

class Sav - ackt extends Account
{
```

```java
Sav_acct (String cust_name, long acc_no,
                String acc_type, double balance)
{
    super (cust_name, acc_no, acc_type, balance);
    System.out.print ln (" Name of the customer:"
                            + cust_name);
    System.out.println (" Account Number acc_no:"
                            + acc_no);
    System.out.println (" Account type:" + acc_type);
    System.out.println (" Balance:" + balance);
}

void desposite (double amount)
{
    this.balance = this.balance + amount
    interest ();
}

void interest ()
{
    int rate = 10, time = 1;
    float ci = (float)(this.balance * Math.
                        pow (1+rate/100.0, time)
                        - this.balance);
    System.out.println (" The interest amount
                added to balance is " + ci);
```

```java
        this. balance = this. balance + Si;
    }

    void withdrawal (double amount)
    {
        this. balance = this. balance - amount;
        System. out. println ("The Current balance
                    is " + balance);
    }

    void display ()
    {
        System. out. println (" Balance is : " +
                            this. balance).
    }
}

class AccountMain
{

    public static void main (String [] args)
    {

        Scanner xx = new Scanner (System. in);
        Double amount;
```

```java
int flag = 0;
while (flag == 0)
{
    System.out.println(" Enter the type of
    Account : \n 1 : current account \n
    2 : Savings account");
    int choice = xx.nextInt();
    switch (choice)
    {
        case 1 : System.out.println (" \n current
                                        account \n");
            System.out.println (" Enter the name
            of account holder");
            String f = xx.next();
            System.out.println (" Enter the
            account number ");
            long g = xx.nextLong ();
            System.out.println (" Enter the
            balance amount");
            double h = xx.nextDouble();

            Curr_acct c = new Curr_acct(f, g,
                                        "current", h);
            int flag1 = 0;
            while (flag1 == 0)
```

```java
{
    System.out.println("Enter your choice \n1:
        Deposit amount \n 2: Display Balance \n
        3: Withdraw");
    int choice1 = xx.nextInt();
    Switch(choice 1)
    {
        case 1:
        System.out.println("Enter amount to be
                                deposited:");
        amount = xx.nextDouble();
        C.deposit(amount);
        break;


        case 2:
        C.display();
        break;


        case 3:
        System.out.println("Enter amount you
            want to withdraw:");
        amount = xx.nextDouble();
        C.withdrawal(amount);
        break;
```

```
              default;
              flag1 = 1;
           }
        }

     break;
     case2 : System.out.println("\n Savings account
     System.out.println(" Enter the name of
                          account holder");
     String P = XX.next();
     System.out.println("Enter the account
                          number");
     long q = XX.nextLong();
     System.out.println(" Enter the balance
                          amount");
     double r = XX.nextDouble();
     Sav_acct  s = new Sav_acct (p, q, "Savings"
     int flag2 = 0;
     while (flag2 == 0)
     {
           System.out.println("Enter your choice\n
              1: Deposit amount \n 2: Display Balance
              \n 3: Withdraw");
           int choice2 = XX.nextInt();
           Switch (choice2)
```

```java
{
    case 1: System.out.println("Enter
            amount to be deposited: ");
    amount = xx.nextDouble();
    S.deposite(amount);
    break;
    case 2:
    S.display();
    break;
    case 3:
    System.out.println("Enter amount you
            want to withdraw: ");
    amount = xx.nextDouble();
    S.withdrawl(amount);
    break;
    default:
    flag 2 = 1;
        }
    }
    break;
    default: flag = 1;
        }
    }
}
```