Lab 4 Program: 3/11/20

1BM19CS090

Mohammed Ibrahim Rahil.S

code:

```
import java.util.Scanner;
abstract class Shape{
    float a,b;
    abstract void printArea();
    Scanner ss=new Scanner(System.in);
}
class Rectangle extends Shape{
    void printArea(){
        System.out.print("Enter Length:");
        a = ss.nextFloat();
        System.out.print("Enter Breadth:");
        b = ss.nextFloat();
        System.out.print("Area of Rectangle is "+(a*b)+"\n");
    }
}
class Triangle extends Shape{
    void printArea(){
        System.out.print("Enter Base Length:");
        a = ss.nextFloat();
        System.out.print("Enter Height:");
        b = ss.nextFloat();
        System.out.print("Area of Triangle is "+(0.5*(a*b))
                +"\n");
    }
}
class Circle extends Shape{
    void printArea(){
        System.out.print("Enter Radius:");
        a = ss.nextFloat();
        System.out.print("Area of Circle is "+(3.14*a*a)
                +"\n");
    }
}
```

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```
class AreaMain {
    public static void main (String args[]) {
        int i;
        Scanner ss = new Scanner (System.in);
        do {
            System.out.print ("\n1. Rectangle \n2. Triangle \n3. Circle
                               \n4. Exit \n Enter Your choice: ");
            i = ss.nextInt();
            if (i==1) {
                Rectangle r = new Rectangle();
                r.printArea(); }
            else if (i==2) {
                Triangle t = new Triangle();
                t.printArea();
            }
            else if (i==3) {
                Circle c=new Circle();
                c.printArea();
            }
            else if (i==4)
                break;
            else
                System.out.println ("Enter Valid choice!!");
        } while (i>0);
    }
}
```

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ShapeArea.java

Saved

```java
import java.util.Scanner;
abstract class Shape{
    float a,b;
    abstract void printArea();
    Scanner ss=new Scanner(System.in);
}

class Rectangle extends Shape{
    void printArea(){
         System.out.print("Enter Length:");
         a=ss.nextFloat();
         System.out.print("Enter Breadth:");
         b=ss.nextFloat();
         System.out.print("Area of Rectangle is "+(a*b)+"\n");
    }
}
class Triangle extends Shape{
    void printArea(){
        System.out.print("Enter Base Length:");
         a=ss.nextFloat();
         System.out.print("Enter Height:");
         b=ss.nextFloat();
         System.out.print("Area of Triangle is "+(0.5*(a*b))+"\n");
    }
}
class Circle extends Shape{
    void printArea(){
         System.out.print("Enter Radius:");
         a=ss.nextFloat();
         System.out.print("Area of Circle is "+(3.14*a*a)+"\n");
    }
}
class AreaMain{
    public static void main(String args[]){
        int i;
        Scanner ss=new Scanner(System.in);
        do{
            System.out.print("\n1.Rectangle\n2.Triangle\n3.Circle\n4.Exit\nEnter Your Choice:");
            i=ss.nextInt();
            if(i==1){
                Rectangle r=new Rectangle();
                r.printArea();
            }
            else if(i==2){
                Triangle t=new Triangle();
                t.printArea();
            }
            else if(i==3){
                Circle c=new Circle();
                c.printArea();
            }
            else if(i==4)
                 break;
            else{
                System.out.println("Enter Valid Choice!!");
           }
        }while(i>0);
    }
}
```

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```
Terminal

1.Rectangle
2.Triangle
3.Circle
4.Exit
Enter Your Choice:1
Enter Length:2
Enter Breadth:2.2
Area of Rectangle is 4.4

1.Rectangle
2.Triangle
3.Circle
4.Exit
Enter Your Choice:2
Enter Base Length:34
Enter Height:11
Area of Triangle is 187.0

1.Rectangle
2.Triangle
3.Circle
4.Exit
Enter Your Choice:3
Enter Radius:23
Area of Circle is 1661.06

1.Rectangle
2.Triangle
3.Circle
4.Exit
Enter Your Choice:4

Process finished.
```

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Lab 5 Program:

Mohammed Ibrahim Rafi

code:

```
import java.util.Scanner;
class Account{
    String cn;
    char t;
    int ano;
    float bal = 0, wit = 0;
    Scanner ss = new Scanner(System.in);
    void dep(){
        System.out.print("Enter Amount to be Deposited: ");
        bal = ss.nextFloat();
        System.out.print("Balance = " + bal);
    }
    void withd(){
        System.out.print("Enter Amount to be withdrawn: ");
        wit = ss.nextFloat();
        bal = wit;
        System.out.print("Balance = " + bal);
    }
    void bal(){
        System.out.print("Balance = " + bal);
    }
}
class sav_acct extends Account{
    void interest(){
        float per; double in; int yr;
        System.out.print("Enter Rate of Interest (%) and
                          years Invested: ");
        per = ss.nextFloat();
        yr = ss.nextInt();
        in = bal * Math.pow((1 + (per/100)), yr);
        System.out.print("Deposit Interest = " + in);
    }
}
```

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```
class curr_acct extends Account {
    void pen(){
        if (bal <= 2000)
        {
            bal -= 100;
            System.out.print("\n Penalty of Rs. 100 levied");
            System.out.print("\nBalance = " +bal);
        }
        else
            System.out.print("\n Minimum Balance Maintained");
    }
}
class BankMain
{
    public static void main(String args[])
    {
        Scanner ss = new Scanner(System.in);
        System.out.println("***** Bank *****");
        Account A = new Account();
        System.out.print("Enter Name:");
        A.cn = ss.next();
        System.out.print("Enter Account No:");
        A.ano = ss.nextInt();
        System.out.print("Enter S for Saving or
                          C for Current :");
        A.t = ss.next().charAt(0);
        int i;
        if (A.t == 'S' || A.t == 's'){
            sav_acct sav = new sav_acct();
            do {
                System.out.print("\n\n1. Deposit\n2. Withdraw
                                  \n3. View Balance
                                  \n4. View Deposit Interest
                                  \n5. Exit
                                  \n Enter Choice:");
                i = ss.nextInt();
```

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```
            if (i==1)
                sav.dep();
            else if (i==2)
                sav.withd();
            else if (i==3)
                sav.bal();
            else if (i==4)
                sav.interest();
            else if (i==5)
                break;
            else
                System.out.print("Enter Valid choice!!");
        } while (i>0);
    }
    if (A.t == 'C' || A.t == 'c') {
        curr_acct cur = new curr_acct();
        do {
            System.out.print("\n1.Deposit\n2.Withdraw\n3.View Balance
                \n4.Exit\nEnter choice:");
            i = ss.nextInt();
            if (i==1)
                cur.dep();
            else if (i==2) {
                cur.withd();
                cur.pen();
            }
            else if (i==3)
                cur.bal();
            else if (i==4)
                break;
            else
                System.out.print("Enter Valid choice!!");
        }
    }
}
```

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Bank.java

Saved

```java
import java.util.Scanner;
class Account{
  String cn;
  char t;
  int ano;
  float bal=0,wit=0;
  Scanner ss=new Scanner(System.in);
  void dep(){
    System.out.print("Enter Amount to be Deposited:");
    bal=ss.nextFloat();
    System.out.print("Balance = "+bal);
  }
  void withd(){
    System.out.print("Enter Amount to be Withdrawn:");
    wit=ss.nextFloat();
    bal-=wit;
    System.out.print("Balance = "+bal);
  }
  void bal(){
    System.out.print("Balance = "+bal);
  }
}
class sav_acct extends Account{
  void interest(){
    float per;double in;int yr;
    System.out.print("Enter Rate of Interest(%) and years Invested:");
    per=ss.nextFloat();
    yr=ss.nextInt();
    in=bal*Math.pow((1+(per/100)),yr);
    System.out.print("Deposit Interest = "+in);
  }
}
class curr_acct extends Account{
  void pen(){
    if(bal<=2000)
    {
      bal-=100;
      System.out.print("\nPenalty of rs.100 levied");
      System.out.print("\nBalance = "+bal);
    }
    else
    {
      System.out.print("\nMinimum Balance Maintained");
    }
  }
}
 class BankMain
 {
   public static void main(String args[])
   {
    Scanner ss=new Scanner(System.in);
    System.out.println("*****Bank*****");
    Account A=new Account();
    System.out.print("Enter Name:");
    A.cn=ss.next();
    System.out.print("Enter Account No:");
    A.ano=ss.nextInt();
    System.out.print("Enter S for Savings or C for Current:");
    A.t=ss.next().charAt(0);
    int i;
    if(A.t=='S'||A.t=='s'){
      sav_acct sav=new sav_acct();
      do{
        System.out.print("\n\n1.Deposit\n2.Widthdraw\n3.View Balance\n4.View Deposit Interest\n5.Exit\nEnter Che
        i=ss.nextInt();
        if(i==1){
          sav.dep();
        }
        else if(i==2){
          sav.withd();
        }
        else if(i==3){
          sav.bal();
        }
        else if(i==4){
          sav.interest();
        }
        else if(i==5){
          break;
        }
        else{
          System.out.print("Enter Valid Choice!!");
        }
      }while(i>0);
    }
    if(A.t == 'C'||A.t=='c'){
      curr_acct cur=new curr_acct();
      do{
        System.out.print("\n1.Deposit\n2.Widthdraw\n3.View Balance\n4.Exit\nEnter Choice:");
        i=ss.nextInt();
        if(i==1){
          cur.dep();
        }
        else if(i==2){
           cur.withd();
           cur.pen();
        }
        else if(i==3){
          cur.bal();
        }
        else if(i==4){
          break;
        }
        else{
          System.out.print("Enter Valid Choice!!");
        }
      }while(i>0);
    }
   }
```

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```
  ×    Terminal
*****Bank*****
Enter Name:Ahmed
Enter Account No:123456
Enter S for Savings or C for Current:S


1.Deposit
2.Widthdraw
3.View Balance
4.View Deposit Interest
5.Exit
Enter Choice:1
Enter Amount to be Deposited:5000
Balance = 5000.0

1.Deposit
2.Widthdraw
3.View Balance
4.View Deposit Interest
5.Exit
Enter Choice:2
Enter Amount to be Withdrawn:600
Balance = 4400.0

1.Deposit
2.Widthdraw
3.View Balance
4.View Deposit Interest
5.Exit
Enter Choice:3
Balance = 4400.0

1.Deposit
2.Widthdraw
3.View Balance
4.View Deposit Interest
5.Exit
Enter Choice:4
Enter Rate of Interest(%) and years Invested:4 2
Deposit Interest = 4759.039650878913

1.Deposit
2.Widthdraw
3.View Balance
4.View Deposit Interest
5.Exit
Enter Choice:5

Process finished.
```

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```
× Terminal

1.Deposit
2.Widthdraw
3.View Balance
4.Exit
Enter Choice:1
Enter Amount to be Deposited:3000
Balance = 3000.0

1.Deposit
2.Widthdraw
3.View Balance
4.Exit
Enter Choice:2
Enter Amount to be Withdrawn:1200
Balance = 1800.0
Penalty of rs.100 levied
Balance = 1700.0

1.Deposit
2.Widthdraw
3.View Balance
4.Exit
Enter Choice:3
Balance = 1700.0

1.Deposit
2.Widthdraw
3.View Balance
4.Exit
Enter Choice:5
Enter Valid Choice!!

1.Deposit
2.Widthdraw
3.View Balance
4.Exit
Enter Choice:4

Process finished.
```

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