

```

1 abstract class Shape{
2     double dim1,dim2;
3     abstract double printArea();
4 }
5
6
7 class Rectangle extends Shape{
8     Rectangle(double a, double b){
9         dim1 = a;
10        dim2 = b;
11    }
12    double printArea(){
13        System.out.println("Inside the Rectangle");
14        return dim1*dim2;
15    }
16 }
17
18 class Triangle extends Shape{
19     Triangle(double a, double b){
20         dim1 = a;
21         dim2 = b;
22     }
23     double printArea(){
24         System.out.println("Inside the Triangle");
25         return dim1*dim2/2;
26     }
27 }
28
29 class Circle extends Shape{
30     Circle(double a){
31         dim1 = a;
32     }
33     double printArea(){
34         System.out.println("Inside the Circle");
35         return 3.14*dim1*dim1;
36     }
37 }
38
39 class abs1Main{
40     public static void main(String args[]){
41         Rectangle r = new Rectangle(10,20);

```



```

    }
    double printArea(){
        System.out.println("Inside the Rectangle");
        return dim1*dim2;
    }
}

class Triangle extends Shape{
    Triangle(double a, double b){
        dim1 = a;
        dim2 = b;
    }
    double printArea(){
        System.out.println("Inside the Triangle");
        return dim1*dim2/2;
    }
}

class Circle extends Shape{
    Circle(double a){
        dim1 = a;
    }
    double printArea(){
        System.out.println("Inside the Circle");
        return 3.14*dim1*dim1;
    }
}

class abs1Main{
    public static void main(String args[]){
        Rectangle r = new Rectangle(10,20);
        Triangle t = new Triangle(20,30);
        Circle c = new Circle(35);

        System.out.println("Area of Rectangle is:" +r.printArea());
        System.out.println("Area of Triangle is:" +t.printArea());
        System.out.println("Area of Circle is:" +c.printArea());
    }
}

```

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5
(base) jathinsmacbookpro@Jathins-MacBook-Pro java % java abs1Main
Inside the Rectangle
Area of Rectangle is:200.0
Inside the Triangle
Area of Triangle is:300.0
Inside the Circle
Area of Circle is:3846.5
(base) jathinsmacbookpro@Jathins-MacBook-Pro java %
```

```

import java.util.Scanner;

abstract class Account{
    String c_name, acc_type;
    int acc_num;
    double balance;
    int minbalance = 2000;
    Account(String c_name, int acc_num, double balance){
        this.c_name = c_name;
        this.acc_num = acc_num;
        this.balance = balance;
        this.acc_type = acc_type;
    }

    abstract void addbal(double amount);
    abstract void display();
    abstract void withdraw(double amount);
}

class curr_acct extends Account{
    curr_acct(String c_name, int acc_num, double balance){
        super(c_name, acc_num, balance);
        System.out.println("Details of the customer:");
        System.out.println("Customer name: " + c_name + "\tAccount number: " + acc_num + "\tBalance: " + balance + "Account type: " + acc_type);
    }

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

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

    void withdraw(double amount){
        if(this.balance < amount){
            System.out.println("Insufficient funds");
            System.out.println("Your balance is: " + this.balance);
            return;
        }
    }
}

```



```

        System.out.println("Your balance is: " + this.balance);
        return;
    }
    this.balance = this.balance - amount;
    if(this.balance < minbalance){
        this.balance = this.balance + this.balance*0.5;
        System.out.println("A penalty of Rs. " + this.balance*0.5 + " has been charged as minimum balance is not satisfied");
        System.out.println("Updated Balance: " + this.balance);
        System.out.println("Cannot withdraw");
    }
    else if(balance > minbalance){
        this.balance = this.balance - amount;
        System.out.println("Balance is: " + this.balance);
    }
}

class sav_acct extends Account{
    sav_acct(String c_name, int acc_num, double balance){
        super(c_name, acc_num, balance);
        System.out.println("Customer name: " + c_name + "\tAccount number: " + acc_num + "\tBalance: " + balance + "Account type: " + type);
    }
    void addbal(double amount){
        this.balance += amount;
    }
    void display(){
        System.out.println("The balance is:" + this.balance);
    }
    void withdraw(double amount){
        if(this.balance < amount){
            System.out.println("Insufficient funds");
            System.out.println("Your balance is: " + this.balance);
        }
        this.balance = this.balance - amount;
        if(this.balance < minbalance){
            this.balance = this.balance + this.balance*0.5;
            System.out.println("A penalty of Rs. " + this.balance*0.5 + " has been charged as minimum balance is not satisfied");
            System.out.println("Updated Balance: " + this.balance);
        }
    }
}

```

```

        System.out.println("A penalty of Rs. " + this.balance*0.5 + " has been charged as minimum balance is not satified");
        System.out.println("Updated Balance: " + this.balance);
        System.out.println("Cannot withdraw");
    }
    else if(balance > minbalance){
        this.balance = this.balance - amount;
        System.out.println("Balance is: " + this.balance);
    }
}

void interest(double amount){
    int time = 3, n=1;
    System.out.println("Rate of interest is 0.2%");
    this.balance = this.balance*Math.pow(1+(0.2)/n, (nt));
}

class abs2Main{
    public static void main(String args[]){
        int choice,ch,n=1;
        double amount;
        Scanner s1 = new Scanner(System.in);
        curr_acct c = new curr_acct("jatin", 12345, 50000);
        sav_acct s = new sav_acct("jatin", 12345, 50000);
        System.out.println("Press 1.For Current account\nPress 2.For Savings account");
        choice = s1.nextInt();
        switch(choice){
            case 1: System.out.println("****Current Account****");
                while(n!=0){
                    System.out.println("1.AddBalance\n2.displayBalance\n3.withdraw\n4.checkbook\n5.Exit");
                    ch = s1.nextInt();
                    String reciever;
                    double recamount;
                    switch(ch){
                        case 1:
                            System.out.println("enter amount to be added:");
                            amount = s1.nextDouble();
                            c.addbal(amount);
                            break;
                    }
                }
            case 2:
                System.out.println("****Savings Account****");
                while(n!=0){
                    System.out.println("1.AddBalance\n2.displayBalance\n3.withdraw\n4.checkbook\n5.Exit");
                    ch = s1.nextInt();
                    String reciever;
                    double recamount;
                    switch(ch){
                        case 1:
                            System.out.println("enter amount to be added:");
                            amount = s1.nextDouble();
                            s.addbal(amount);
                            break;
                    }
                }
            case 3:
                System.out.println("****Withdraw****");
                while(n!=0){
                    System.out.println("1.AddBalance\n2.displayBalance\n3.withdraw\n4.checkbook\n5.Exit");
                    ch = s1.nextInt();
                    String reciever;
                    double recamount;
                    switch(ch){
                        case 1:
                            System.out.println("enter amount to be added:");
                            amount = s1.nextDouble();
                            c.addbal(amount);
                            break;
                        case 2:
                            System.out.println("enter amount to be displayed:");
                            amount = s1.nextDouble();
                            c.displaybal(amount);
                            break;
                        case 3:
                            System.out.println("enter amount to be withdrawn:");
                            amount = s1.nextDouble();
                            c.withdraw(amount);
                            break;
                        case 4:
                            System.out.println("enter amount to be checked:");
                            amount = s1.nextDouble();
                            c.checkbook(amount);
                            break;
                        case 5:
                            n=0;
                            break;
                    }
                }
            case 4:
                System.out.println("****Checkbook****");
                while(n!=0){
                    System.out.println("1.AddBalance\n2.displayBalance\n3.withdraw\n4.checkbook\n5.Exit");
                    ch = s1.nextInt();
                    String reciever;
                    double recamount;
                    switch(ch){
                        case 1:
                            System.out.println("enter amount to be added:");
                            amount = s1.nextDouble();
                            c.addbal(amount);
                            break;
                        case 2:
                            System.out.println("enter amount to be displayed:");
                            amount = s1.nextDouble();
                            c.displaybal(amount);
                            break;
                        case 3:
                            System.out.println("enter amount to be withdrawn:");
                            amount = s1.nextDouble();
                            c.withdraw(amount);
                            break;
                        case 4:
                            System.out.println("enter amount to be checked:");
                            amount = s1.nextDouble();
                            c.checkbook(amount);
                            break;
                        case 5:
                            n=0;
                            break;
                    }
                }
            case 5:
                System.out.println("****Exit****");
                n=0;
                break;
        }
    }
}

```

```

switch(ch){
    case 1:
        System.out.println("enter amount to be added:");
        amount = s1.nextDouble();
        c.addbal(amount);
        break;

    case 2:
        c.display();
        break;

    case 3:
        System.out.println("enter amount to be withdrawn:");
        amount = s1.nextDouble();
        c.withdraw(amount);
        break;

    case 4:
        System.out.println("Enter the name of the reciever:");
        reciever = s1.next();
        System.out.println("Enter amount to be debited to reciever:");
        recamount = s1.nextDouble();
        if(recamount>c.balance){
            System.out.println("Inssufficient Balance");
        }
        else{
            System.out.println("Amount of " +recamount+ "sent to" +reciever);
            c.balance = c.balance - recamount;
            System.out.println("Balance: " +c.balance);
            s.balance = c.balance;
        }

    case 5:
        n=0;
        break;

    default: System.out.println("Invalid input");
}
break;

```



```

        break;
    default: System.out.println("Invalid input");
    }
}
break;

case 2: System.out.println("****Savings Account****");
while(n!=0){
    System.out.println("1.AddBalance\n2.displayBalance\n3.withdraw\n4.Exit");
    ch = s1.nextInt();
    switch(ch){
        case 1:
            System.out.println("enter amount to be added:");
            amount = s1.nextDouble();
            s.addbal(amount);
            break;

        case 2:
            s.display();
            break;

        case 3:
            System.out.println("enter amount to be withdrawn:");
            amount = s1.nextDouble();
            s.withdraw(amount);
            break;

        case 4:
            n=0;
            break;

        default: System.out.println("Invalid input");
    }
}
break;

default: System.out.println("Invalid input");
}
}
}

```



```
Terminal Shell Edit View Window Help
java -zsh - 81x46
(base) jathinsmacbookpro@Jathins-MacBook-Pro java % java abs2Main
Details of the customer:
Customer name: jatin    Account number: 12345    Balance: 50000.0Account type: cur
rent
Customer name: jatin    Account number: 12345    Balance: 50000.0Account type: sav
ings
Press 1.For Current account
Press 2.For Savings account
1
****Current Account****
1.AddBalance
2.displayBalance
3.withdraw
4.checkbook
5.Exit
1
enter amount to be added:
34000
1.AddBalance
2.displayBalance
3.withdraw
4.checkbook
5.Exit
2
The balance is:84000.0
1.AddBalance
2.displayBalance
3.withdraw
4.checkbook
5.Exit
3
enter amount to be withdrawn:
4000
Balance is: 76000.0
1.AddBalance
2.displayBalance
3.withdraw
4.checkbook
5.Exit
2
The balance is:76000.0
1.AddBalance
2.displayBalance
3.withdraw
4.checkbook
5.Exit
```

```
2.displayBalance
3.withdraw
4.checkbook
5.Exit
3
enter amount to be withdrawn:
4000
Balance is: 76000.0
1.AddBalance
2.displayBalance
3.withdraw
4.checkbook
5.Exit
2
The balance is:76000.0
1.AddBalance
2.displayBalance
3.withdraw
4.checkbook
5.Exit
3
enter amount to be withdrawn:
75500
A penalty of Rs. 125.0has been charged as minimum balance is not satisfied
Updated Balance: 250.0
Cannot withdraw
1.AddBalance
2.displayBalance
3.withdraw
4.checkbook
5.Exit
2
The balance is:250.0
1.AddBalance
2.displayBalance
3.withdraw
4.checkbook
5.Exit
4
Enter the name of the reciever:
john
Enter amount to be debited to reciever:
150
Amount of 150.0sent tojohn
Balance: 100.0
(base) jathinsmacbookpro@Jathins-MacBook-Pro java %
```