```java
package Assignment_Day5;
class BankAcc{
private int acn;
private String acname;
private double balance;
BankAcc(int acn,String acname,double balance){
this.acn=acn;
this.acname=acname;
this.balance=balance;
}
void deposit(double amount) {
amount=amount>0?amount:0;
this.balance=balance+amount;
System.out.println("Deposited Amount is"+amount);
}
boolean withdraw(double amount) {
if(amount>balance) {
return false;
}
else {
this.balance-=amount;
return true;
}
}
void getbalance() {

System.out.println("Balance is"+balance);
}
void displayDetils() {
System.out.println("BankHolder name is"+acname);
String d=acn+"";
String n="";
for(int i=0;i<d.length();i++) {
if(d.charAt(i)>='0' && d.charAt(i)<='9') {
n+="*";
}
else {
n+=".";
}
}
System.out.println("BankAccount AccountNumber is"+n);
System.out.println("Balance is "+balance);
}
}
public class Bank_Account {
public static void main(String args[]) {
BankAcc b=new BankAcc(101,"RAM",200000);
```

```java
b.displayDetils();
b.deposit(-50);
System.out.println("Withdrawl status "+b.withdraw(400000));
}
}
```

BankHolder name isRAM
BankAccount AccountNumber is***
Balance is 200000.0
Deposited Amount is0.0
Withdrawl status false

```java
package Assignment_Day5;

class Student{
private int rollnumber;
private String name;
private float marks;
Student(int rollnumber,String name,float marks)
{
this.rollnumber=rollnumber;
this.name=name;
this.marks=(marks>0 && marks<100)?marks:0;
}
void getRollno() {
System.out.println("RollNumber");
}
void getname() {
System.out.println("Name");
}
void getmarks() {
System.out.println("Marks");
}
void displaydetails() {
System.out.println("RollNumber="+rollnumber);
System.out.println("Name= "+name);
System.out.println("marks= "+marks);
}


}
public class Encapsulation1 {

public static void main(String[] args) {
// TODO Auto-generated method stub
Student s=new Student(101,"Ram",85.6f);
```

```java
s.displaydetails();
s.getRollno();
s.getname();
s.getmarks();
}

}
```

```
RollNumber=101
Name=        Ram
marks=       85.6
RollNumber
Name
Marks
```

```java
package Assignment_Day5;

class Rectangle
{
private int height,width;
Rectangle(int height,int width){
this.height=height>0 ? height:20;
this.width=width>0?width:20;
}
void setheight() {
this.height=height>0?height:20;
System.out.println("Updated Height"+height);
}
void setwidth() {
this.width=width>0?width:20;
System.out.println("Updated Width"+width);
}
void getArea() {
System.out.println("Area is"+(height*width));
}
void getPerimeter() {
System.out.println("Perimeter is "+(2*(height+width)));
}
void displaydetails() {
System.out.println("Height"+height);
System.out.println("Width"+width);
System.out.println("Area is"+(height*width));
System.out.println("Perimeter is "+(2*(height+width)));
}
}
public class Recatngle {
```

```java
public static void main(String[] args) {
Rectangle r=new Rectangle(-20,30);
r.getArea();
r.getPerimeter();
r.displaydetails();



}

}
```

```
Area is600
Perimeter is 100
Height20
Width30
Area is600
Perimeter is 100
```

```java
package Assignment_Day5;

class Locker {
private int lockerid;
private boolean isLocked;
private String passcode;
Locker(int lockerid, String initialPasscode) {
this.lockerid = lockerid;
this.passcode = initialPasscode;
this.isLocked = true;
}
public void lock() {
this.isLocked = true;
}
public boolean unlock(String code) {
if (new SecurityManager().verifycode(code)) {
this.isLocked = false;
return true;
}
return false;
}
public boolean isLocked() {
return this.isLocked;
}
private class SecurityManager {
```

```java
private boolean verifycode(String st) {
return passcode.equals(st);
}
}
}


public class SecureLocker {
public static void main(String[] args) {
Locker l = new Locker(101, "secret123");
System.out.println("Is locked =" + l.isLocked());
boolean unlocked = l.unlock("wrong");
System.out.println("Unlock success? " + unlocked);
System.out.println("Is locked= " + l.isLocked());
unlocked = l.unlock("secret123");
System.out.println("Unlock success? " + unlocked);
System.out.println("Is locked=" + l.isLocked());
l.lock();
System.out.println("Is locked=" + l.isLocked());
}
}
```

```
Is locked =true
Unlock success? false
Is locked= true
Unlock success? true
Is locked=false
Is locked=true
```

```java
package Assignment_Day5;

@FunctionalInterface
interface SumCalculator {
int sum(int a, int b);
}

public class p1 {
public static void main(String[] args) {
SumCalculator adder = (a, b) -> a + b;
System.out.println("Sum: " + adder.sum(5, 3));
}
}
```

```
Sum: 8
```

```java
package Assignment_Day5;
```

```java
@FunctionalInterface
interface SumCalculator {
int sum(int a, int b);
}

public class p1 {
public static void main(String[] args) {
SumCalculator adder = (a, b) -> a + b;
System.out.println("Sum: " + adder.sum(5, 3));
}
}
```

```
true
false
```

```java
package Assignment_Day5;

import java.util.function.Predicate;
import java.util.Arrays;
import java.util.List;

public class p3 {
public static void main(String[] args) {
Predicate<Integer> isEven = n -> n % 2 == 0;
Predicate<Integer> isOdd = n -> n % 2 != 0;
List<Integer> numbers = Arrays.asList(1, 2, 3, 4, 5);
numbers.stream()
.filter(isEven)
.forEach(System.out::println);
numbers.stream()
.filter(isOdd)
.forEach(System.out::println);
}
}
```

```
2
4
1
3
5
|
```

```java
package Assignment_Day5;

import java.util.function.Function;
import java.util.Arrays;
import java.util.List;

public class p4 {
public static void main(String[] args) {
Function<String, String> toUpper = s -> s.toUpperCase();
Function<String, String> toLower = s -> s.toLowerCase();
List<String> words = Arrays.asList("Hello", "World");
words.stream()
.map(toUpper)
.forEach(System.out::println);
words.stream()
.map(toLower)
.forEach(System.out::println);
}
}
```

```
HELLO
WORLD
hello
world
|
```

```java
package Assignment_Day5;

import java.util.Arrays;
import java.util.List;
import java.util.Comparator;

public class p5 {
public static void main(String[] args) {
List<String> words = Arrays.asList("apple", "banana", "cherry", "date");
```

```java
words.stream()
.sorted(Comparator.comparingInt(String::length))
.forEach(System.out::println);
words.stream()
.sorted()
.forEach(System.out::println);
}
}
```

```
date
apple
banana
cherry
apple
banana
cherry
date
```

```java
package Assignment_Day5;

interface Factorial {
long calculate(int n);
}

public class p6 {
public static void main(String[] args) {

Factorial fact = (n) -> {
long result = 1;
for (int i = 1; i <= n; i++) {
result *= i;
}
return result;
};

int number = 5;
System.out.println("Factorial of " + number + " = " + fact.calculate(number));
}
}
```

```
Factorial of 5 = 120
```