

Programming Class Final Exam

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Problem-1 insufficient funds exception

```
package Package;

public class InsufficientFundsException extends Exception{

    public InsufficientFundsException() { //default error message
        super("Error: You have insuffiecient funds");
    }

    public InsufficientFundsException(String m) { //custom error
message based on provided string m
        super(m);
    }

}
```

(Output- screenshots) : N/A

Problem-1 bankaccount

```
package Package;

public class BankAccount
{

    double balance = 50;
```

```

    double takeaway;

    public double withdraw(double takeaway) throws
    InsufficientFundsException {

        if((balance - takeaway)<0) {

            throw new InsufficientFundsException("Insufficient
Balance");

        }

        else if (takeaway <= 0){

            throw new IllegalArgumentException("Withdrawl must be
more than zero");

        }

        else {

            return balance -= takeaway;

        }

    }

}

```

(Output- screenshots) : N/A

Problem-1 bankaccountdemo

```

package Package;

public class BankAccountDemo {

    public static void main(String[] args) throws
    InsufficientFundsException {

```

```

double balance = 50;
double with50 = -50;
double with100 = 100;

try {

    BankAccount negative = new BankAccount();
    System.out.println("Withdrawl of -50");
    negative.withdraw(with50);
    System.out.println();

    } catch (IllegalArgumentException m) {
        System.out.println("Invalid inputs: " + m.getMessage()); //will
catch error and throw custom message
    }

try {

    BankAccount over = new BankAccount();

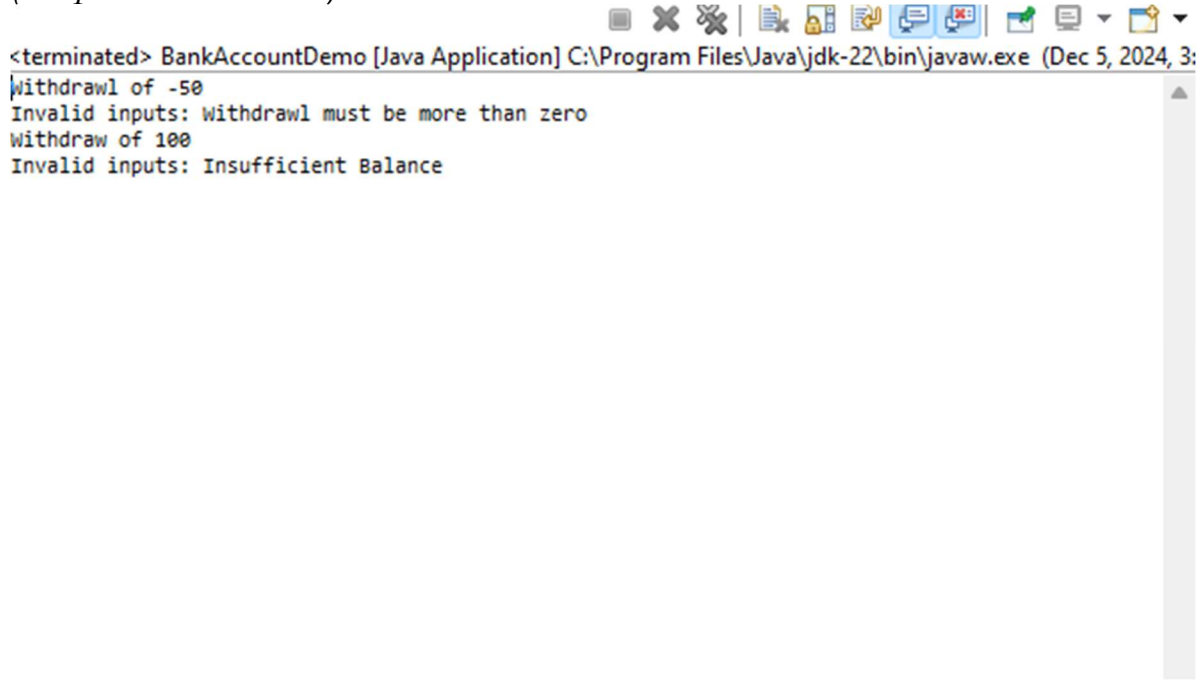
    System.out.println("Withdraw of 100");
    over.withdraw(with100);

    } catch (InsufficientFundsException m) {
        System.out.println("Invalid inputs: " + m.getMessage());
//will catch error and throw custom message
    }

```

```
}  
  
}
```

(Output- screenshots) :



```
<terminated> BankAccountDemo [Java Application] C:\Program Files\Java\jdk-22\bin\javaw.exe (Dec 5, 2024, 3:  
Withdrawal of -50  
Invalid inputs: Withdrawl must be more than zero  
Withdraw of 100  
Invalid inputs: Insufficient Balance
```

Problem-2 Vehicle

```
package homework7;
```

```
public abstract class Vehicle {
```

```
    String type;
```

```
    String brand;
```

```
    public Vehicle(String type, String brand) {
```

```
        this.type = type;
```

```
        this.brand = brand;
```

```
    }
```

```
public Vehicle() {  
    this.type = type;  
    this.brand = brand;  
}  
  
public void setType(String type) {  
    this.type = type;  
}  
  
abstract String getType();  
  
public void setBrand(String brand) {  
    this.brand = brand;  
}  
  
abstract String getBrand();  
}
```

(Output-screenshots) N/A

Problem-2 VehicleDetails

```
package homework7;  
  
public interface VehicleDetails {  
    public void setColor(String color);  
    public String getColor();  
}
```

(Output-screenshots) N/A

Problem-2 Car

package homework7;

public class Car extends Vehicle implements VehicleDetails{

private String color;

private int wheelCnt;

public Car(String color, int wheelCnt, String brand, String type) {

super(type, brand);

this.color = color;

this.wheelCnt = wheelCnt;

}

public Car() {

this.color = color;

this.wheelCnt = wheelCnt;

}

public void setColor(String color) {

this.color = color;

}

public String getColor() {

```
        return color;
    }

    public void setWheelCnt(int wheelCnt) {
        this.wheelCnt = wheelCnt;
    }

    public int getWheelCnt() {
        return wheelCnt;
    }

    @Override
    public String getType() {
        // TODO Auto-generated method stub
        return type;
    }

    @Override
    public String getBrand() {
        // TODO Auto-generated method stub
        return brand;
    }

}
```

(Output-screenshots) N/A

package homework7;

public class VehicleDemo {

public static void main(String[] args) {

String type = "truck", brand = "audi", color = "red";

int wheelCnt = 4;

Car carCW = new Car(color, wheelCnt, brand, type);

System.out.println("The car color is " + carCW.getColor());

***System.out.println("The car wheel count is " +
carCW.getWheelCnt());***

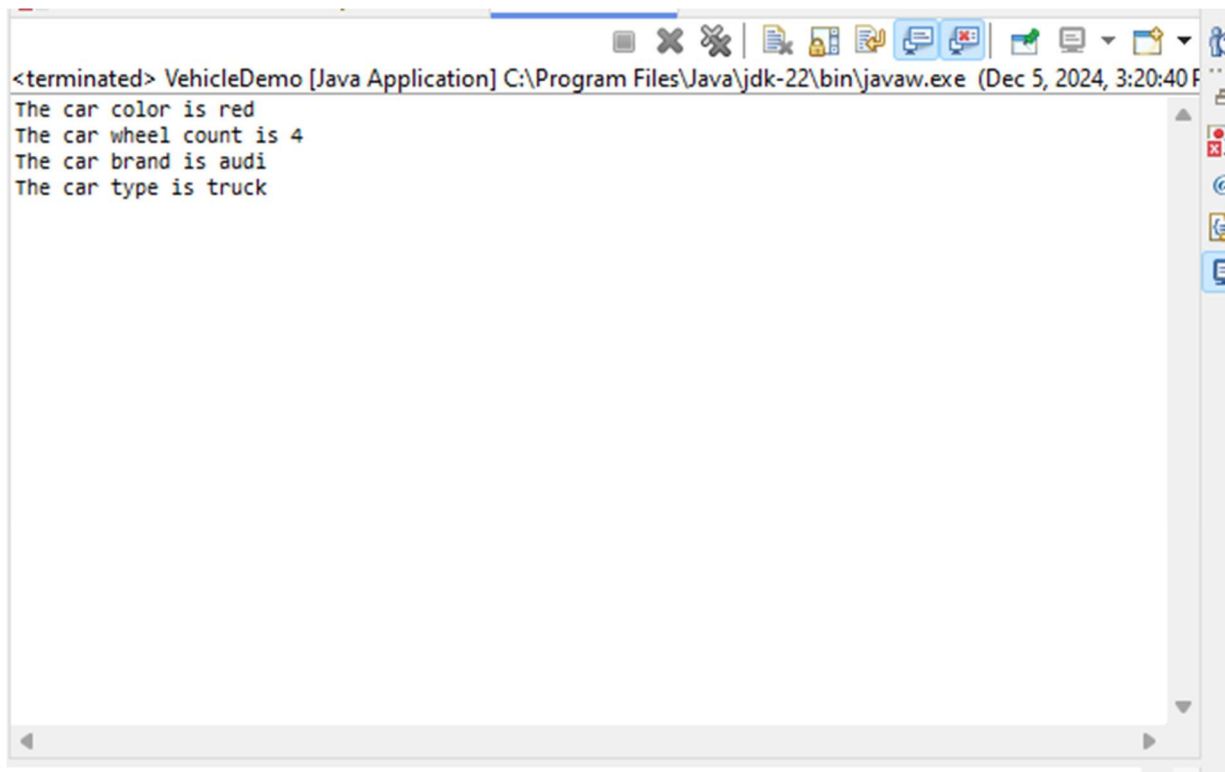
System.out.println("The car brand is " + carCW.getBrand());

System.out.println("The car type is " + carCW.getType());

}

}

(Output-screenshots)



```
<terminated> VehicleDemo [Java Application] C:\Program Files\Java\jdk-22\bin\javaw.exe (Dec 5, 2024, 3:20:40 PM)
The car color is red
The car wheel count is 4
The car brand is audi
The car type is truck
```