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**Semester:-4<sup>th</sup>**

**Shift:- 1<sup>st</sup>**

**Section:- A**

### **PRACTICAL-5**

**Solution:-**

```
package fifth;
```

```
public class InsufficientFundsException extends Exception {  
    private double a;  
  
    public InsufficientFundsException(double a) {  
        super("Insufficient Funds");  
        this.a = a;  
    }  
}
```

```
package fifth;
```

```
public class MandatoryFieldsMissingOrInvalidException extends Exception {  
    private int a=0;  
    private String n=null;  
    private long adh=0;  
    private double b=0.0;  
  
    public MandatoryFieldsMissingOrInvalidException (int a,String n,long  
adh,double b) {  
        super();  
        this.a=a;  
        this.b=b;  
        this.n=n;  
        this.adh=adh;  
        if(this.a<=0 || this.n==null || this.adh<=0 || this.b<=0.0) {  
            System.out.println("Some Fields are Missing");  
        }  
    }  
}
```

```

    }
}
}

```

```
package fifth;
```

```
import javax.naming.OperationNotSupportedException;
```

```

abstract public class Account {
    int accno;
    String name;
    long aid;
    double bal;
    Account(){

    }
    abstract double withdraw(double d) throws
InsufficientFundsException,OperationNotSupportedException;
    abstract double deposit(double d);
    abstract void transfer_money(Account a,double d) throws
InsufficientFundsException,OperationNotSupportedException;
    abstract void display();
}

```

```
package fifth;
```

```

public class SavingAccount extends Account {
    int accno;
    String name;
    long aid;
    double bal;
    public SavingAccount(){
        this. accno=0;
        this.name=null;
        this.aid=0;
        this.bal=0.0;
    }
    public SavingAccount(int accno,String name,long aid,double bal) throws
MandatoryFieldsMissingOrInvalidException {
        try{
            this.accno=accno;
            this.name=name;
            this.aid=aid;
            this.bal=bal;
            if(this.accno==0 || this.name==null || this.aid==0 ||
this.bal==0) {
                throw new
MandatoryFieldsMissingOrInvalidException(this.accno,this.name,this.aid,this.bal);
            }
        }catch(MandatoryFieldsMissingOrInvalidException e) {
            e.printStackTrace();
        }
    }
}

```

```

        double deposit(double d) {
            this.bal+=d;
            return (this.bal);
        }
        double withdraw(double d) throws InsufficientFundsException {
            double diff;
            if(d>this.bal) {
                diff=d-this.bal;
                System.out.println(new InsufficientFundsException(diff));
            }
            else {
                this.bal=this.bal-d;
            }
            return (this.bal);
        }

        void transfer_money(Account a,double d) throws InsufficientFundsException{
            double diff;
            if(d>this.bal) {
                diff=d-this.bal;
                System.out.println(new InsufficientFundsException(diff));
            }
            else {
                this.bal=this.bal-d;
                a.bal=a.bal+d;
            }
        }

        void display() {
            System.out.println("Account Number : "+this.accno);
            System.out.println("Name : "+this.name);
            System.out.println("Aadhar Card Number : "+this.aid);
            System.out.println("Balance : "+this.bal);
        }
    }
}

```

```
package fifth;
```

```
import java.util.Scanner;
```

```
import javax.naming.OperationNotSupportedException;
```

```
public class FDAccount extends Account {
```

```
    int accno;
```

```
    String name;
```

```
    long aid;
```

```

double bal;
public FDAccount(){
    this.accno=0;
    this.name=null;
    this.aid=0;
    this.bal=0.0;
}
public FDAccount(int accno) {
    this.accno=accno;
}
public FDAccount(int accno,String name,long aid,double bal) throws
MandatoryFieldsMissingOrInvalidException {
    try{
        this.accno=accno;
        this.name=name;
        this.aid=aid;
        this.bal=bal;
        if(this.accno<=0 || this.name==null || this.aid<=0 ||
this.bal<=0) {
            throw new
MandatoryFieldsMissingOrInvalidException(this.accno,this.name,this.aid,this.bal);
        }
    }catch(MandatoryFieldsMissingOrInvalidException e) {
        e.printStackTrace();
    }
}
double deposit(double d) {
    this.bal+=d;
    return (this.bal);
}
double withdraw(double d) throws OperationNotSupportedException {
    System.out.println(new OperationNotSupportedException());
    return this.bal;
}

```

```

        void transfer_money(Account a,double d) throws
        OperationNotSupportedException{

            System.out.println(new OperationNotSupportedException());

        }

        void display() {

            System.out.println("Account Number : "+this.accno);

            System.out.println("Name : "+this.name);

            System.out.println("Aadhar Card Number : "+this.aid);

            System.out.println("Balance : "+this.bal);

        }

        public static void main(String[] args) {

            Account[] a1=new Account[4];

            int i=0;

            Scanner sc=new Scanner(System.in);

            while(i<4){

                System.out.println("Which Account you have to open : ");

                System.out.println("1. Savings Account ");

                System.out.println("2. FD Account ");

                System.out.println("Enter your choice : ");

                int ch=sc.nextInt();

                switch(ch) {

                    case 1:{

                        System.out.println("Enter Account Number : ");

                        int acc=sc.nextInt();

                        System.out.println("Enter Name : ");

                        String n=sc.next();

                        System.out.println("Enter Aadhar card Number : ");

                        long aa=sc.nextLong();

                        System.out.println("Enter Balance : ");

                        double ba=sc.nextDouble();

                        try {

                            a1[i]=new SavingAccount(acc,n,aa,ba);

                        } catch (MandatoryFieldsMissingOrInvalidException e) {

                            e.printStackTrace();

                        }

                    }

                }

                i++;

            }

        }

    }

```

```

        }
        i++;
    }

    break;
case 2:{
    System.out.println("Enter Account Number : ");
    int acc1=sc.nextInt();
    System.out.println("Enter Name : ");
    String n1=sc.next();
    System.out.println("Enter Aadhar card Number : ");
    long aa1=sc.nextLong();
    System.out.println("Enter Balance : ");
    double ba1=sc.nextDouble();
    try {
        a1[i]=new FDAccount(acc1,n1,aa1,ba1);
    } catch (MandatoryFieldsMissingOrInvalidException e) {
        e.printStackTrace();
    }
    i++;
}

break;
default:{
    System.out.println("Error");
}

}
}

i=0;
while(i<4) {
    System.out.println("Functions you want to perform : ");
    System.out.println("1. Deposit");
    System.out.println("2. Withdraw");
    System.out.println("3. Transfer Money");
    System.out.println("Enter your choice : ");
    int ch2=sc.nextInt();

```

```

switch(ch2) {
case 1:{
    System.out.println("Enter the amount you want to deposit : ");
    double d=sc.nextDouble();
    a1[i].deposit(d);
    a1[i].display();
    i++;
}
break;
case 2:{
    System.out.println("Enter the amount to withdraw : ");
    double d=sc.nextDouble();
    try {
        a1[i].withdraw(d);
    } catch (OperationNotSupportedException |
InsufficientFundsException e) {
        // TODO Auto-generated catch block
        e.printStackTrace();
    }
    a1[i].display();
    i++;
}
break;
case 3:{
    int k=0;
    System.out.println("Enter the account number to transfer to :
");

    int acc=sc.nextInt();
    Account n=new SavingAccount(acc);
    Account n1=new FDAccount(acc);
    for(Account m : a1){
        if(n.accno==m.accno || n1.accno==m.accno){
            try {
                System.out.println("Enter the amount you
want to transfer : ");

```

```

        double d=sc.nextDouble();

        a1[i].transfer_money(m,d);

        a1[i].display();

    } catch (OperationNotSupportedException |
InsufficientFundsException e) {

        // TODO Auto-generated catch block
        e.printStackTrace();

    }

    i++;

    break;

}

}

i++;

}

break;

default:{

    System.out.println("Error");

}

}

}

}

}

```

**Output: -**



```
Problems @ Javadoc Declaration Console Coverage
<terminated> FDAccount [Java Application] C:\Program Files\Java\jdk-15.0.2\bin\javaw.exe
Which Account you have to open :
1. Savings Account
2. FD Account
Enter your choice :
1
Enter Account Number :
1
Enter Name :
aaa
Enter Aadhar card Number :
1234
Enter Balance :
1234
Which Account you have to open :
1. Savings Account
2. FD Account
Enter your choice :
1
Enter Account Number :
2
Enter Name :
bbb
Enter Aadhar card Number :
2345
Enter Balance :
2345
Which Account you have to open :
1. Savings Account
2. FD Account
Enter your choice :
2
Enter Account Number :
3
Enter Name :
```

<terminated> FDAccount [Java Application] C:\Program Files\Java\jdk-15.0.2\bin\javaw.exe (Feb 24, 2021, 1

```
Which Account you have to open :
1. Savings Account
2. FD Account
Enter your choice :
2
Enter Account Number :
3
Enter Name :
ccc
Enter Aadhar card Number :
3456
Enter Balance :
3456
Which Account you have to open :
1. Savings Account
2. FD Account
Enter your choice :
2
Enter Account Number :
4
Enter Name :
ddd
Enter Aadhar card Number :
4567
Enter Balance :
4567
Functions you want to perform :
1. Deposit
2. Withdraw
3. Transfer Money
Enter your choice :
1
Enter the amount you want to deposit :
123
```

```
Problems @ Javadoc Declaration Console Coverage
<terminated> FDAccount [Java Application] C:\Program Files\Java\jdk-15.0.2\bin\javaw.exe (Feb 24, 20
Enter your choice :
1
Enter the amount you want to deposit :
123
Account Number : 1
Name : aaa
Aadhar Card Number : 1234
Balance : 1357.0
Functions you want to perform :
1. Deposit
2. Withdraw
3. Transfer Money
Enter your choice :
2
Enter the amount to withdraw :
5000
fifth.InsufficientFundsException: Insufficient Funds
Account Number : 2
Name : bbb
Aadhar Card Number : 2345
Balance : 2345.0
Functions you want to perform :
1. Deposit
2. Withdraw
3. Transfer Money
Enter your choice :
1
Enter the amount you want to deposit :
455
Account Number : 3
Name : ccc
Aadhar Card Number : 3456
Balance : 3911.0
```

```
<terminated> FDAccount [Java Application] C:\Program Files\Java\jdk-15.0.2\bin\javaw.exe
Enter the amount to withdraw :
5000
fifth.InsufficientFundsException: Insufficient Funds
Account Number : 2
Name : bbb
Aadhar Card Number : 2345
Balance : 2345.0
Functions you want to perform :
1. Deposit
2. Withdraw
3. Transfer Money
Enter your choice :
1
Enter the amount you want to deposit :
455
Account Number : 3
Name : ccc
Aadhar Card Number : 3456
Balance : 3911.0
Functions you want to perform :
1. Deposit
2. Withdraw
3. Transfer Money
Enter your choice :
2
Enter the amount to withdraw :
456
javax.naming.OperationNotSupportedException
Account Number : 4
Name : ddd
Aadhar Card Number : 4567
Balance : 4567.0
```

```
Problems @ Javadoc Declaration Console Coverage
<terminated> FDAccount [Java Application] C:\Program Files\Java\jdk-15.0.2\bin\javaw.exe (Feb 25, 2021)
Which Account you have to open :
1. Savings Account
2. FD Account
Enter your choice :
1
Enter Account Number :
123
Enter Name :
aaa
Enter Aadhar card Number :
123
Enter Balance :
1234
Which Account you have to open :
1. Savings Account
2. FD Account
Enter your choice :
1
Enter Account Number :
234
Enter Name :
bbb
Enter Aadhar card Number :
234
Enter Balance :
2345
Which Account you have to open :
1. Savings Account
2. FD Account
Enter your choice :
2
Enter Account Number :
345
Enter Name :
```

```
Problems @ Javadoc Declaration Console Coverage
<terminated> FDAccount [Java Application] C:\Program Files\Java\jdk-15.0.2\bin\javaw.exe (Feb 25, 2021)
Enter Account Number :
345
Enter Name :
ccc
Enter Aadhar card Number :
3456
Enter Balance :
3456
Which Account you have to open :
1. Savings Account
2. FD Account
Enter your choice :
2
Enter Account Number :
456
Enter Name :
ddd
Enter Aadhar card Number :
456
Enter Balance :
4567
Functions you want to perform :
1. Deposit
2. Withdraw
3. Transfer Money
Enter your choice :
1
Enter the amount you want to deposit :
250
Account Number : 123
Name : aaa
Aadhar Card Number : 123
Balance : 1484.0
Functions you want to perform :
```

```
Problems @ Javadoc Declaration Console Coverage
<terminated> FDAccount [Java Application] C:\Program Files\Java\jdk-15.0.2\bin\javaw.exe (Feb 25, 2021, 12:45:15 AM - 12:45:15 AM)
Enter the amount you want to deposit :
250
Account Number : 123
Name : aaa
Aadhar Card Number : 123
Balance : 1484.0
Functions you want to perform :
1. Deposit
2. Withdraw
3. Transfer Money
Enter your choice :
2
Enter the amount to withdraw :
50000
fifth.InsufficientFundsException: Insufficient Funds
Account Number : 234
Name : bbb
Aadhar Card Number : 234
Balance : 2345.0
Functions you want to perform :
1. Deposit
2. Withdraw
3. Transfer Money
Enter your choice :
2
Enter the amount to withdraw :
452
javax.naming.OperationNotSupportedException
Account Number : 345
Name : ccc
Aadhar Card Number : 3456
Balance : 3456.0
Functions you want to perform :
1. Deposit
```

```
Problems @ Javadoc Declaration Console Coverage
<terminated> FDAccount [Java Application] C:\Program Files\Java\jdk-15.0.2\bin\javaw.exe (Feb 25, 2021, 12:45:15 AM - 12:45:15 AM)
fifth.InsufficientFundsException: Insufficient Funds
Account Number : 234
Name : bbb
Aadhar Card Number : 234
Balance : 2345.0
Functions you want to perform :
1. Deposit
2. Withdraw
3. Transfer Money
Enter your choice :
2
Enter the amount to withdraw :
452
javax.naming.OperationNotSupportedException
Account Number : 345
Name : ccc
Aadhar Card Number : 3456
Balance : 3456.0
Functions you want to perform :
1. Deposit
2. Withdraw
3. Transfer Money
Enter your choice :
3
Enter the account number to transfer to :
123
Enter the amount you want to transfer :
458
javax.naming.OperationNotSupportedException
Account Number : 456
Name : ddd
Aadhar Card Number : 456
Balance : 4567.0
```

