

**Experiment 3**

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| **Branch:** B.E-CSE | **Section/Group:** 20BCS\_WM-906/B | | | |
| **Semester:** 5th | **Date of Performance:**22-08-2022 | | | |
| **Subject Name:** Problem Based Learning in Java | **Subject Code:** |  | 20CSP-321 |  |

**1. Aim/Overview of the practical:**

Interest Calculator

**2. Task to be done/ Which logistics used:**

Calculate interest based on the type of the account and the status of the account holder. The rates of interest changes according to the amount (greater than or less than 1 crore), age of account holder (General or Senior citizen) and number of days if the type of account is FD or RD.

Finally, create a VideoStoreLauncher class with a main() method which will test the functionality of your other two classes. It should allow the following.

* 1. Add 3 videos: "The Matrix", "Godfather II", "Star Wars Episode IV: A New Hope".
  2. Give several ratings to each video.
  3. Rent each video out once and return it. List the inventory after "Godfather II" has been rented out

1. **Steps for experiment/practical/Code:**

**import** java.util.\*;

**class** FDAccount

{

**double** amount;

**int** noOfDays;

**int** ageofAcHolder;

**public** FDAccount(**double** b,**int** c,**int** d)

{

amount = b;

noOfDays = c;

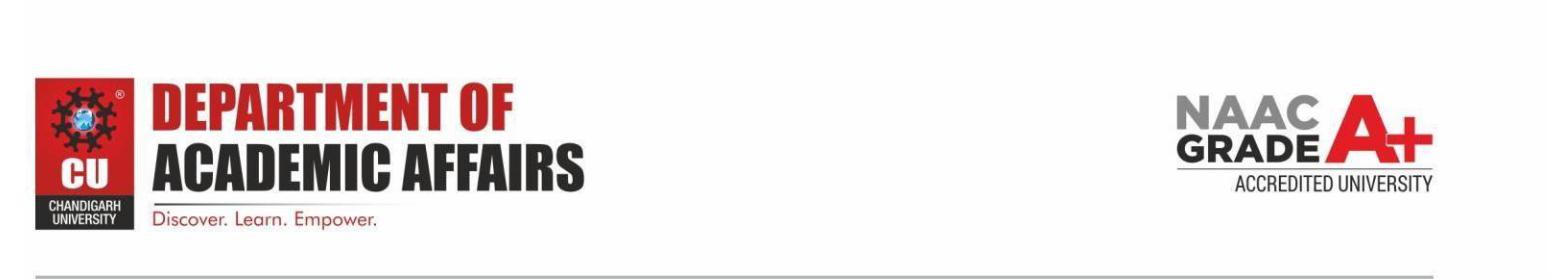
ageofAcHolder = d;

}

**double** interestgain = 0.0;

**void** calculateInterest(){





**if**(amount<10000000){

**if**(ageofAcHolder>=60){

**if**(noOfDays>=7 && noOfDays<=14){

interestgain = (amount\*5.00)/100;

}

**else if**(noOfDays>=15 && noOfDays<=29){

interestgain = (amount\*5.25)/100;

}

**else if**(noOfDays>=30 && noOfDays<=45){

interestgain = (amount\*6.00)/100;

}

**else if**(noOfDays>=45 && noOfDays<=60){

interestgain = (amount\*7.50)/100;

}

**else if**(noOfDays>=61 && noOfDays<=184){

interestgain = (amount\*8.00)/100;

}

**else if**(noOfDays>=185 && noOfDays<=365){

interestgain = (amount\*8.50)/100;

}

System.***out***.println("Interestgain: "+interestgain);

}

**else**{

**if**(noOfDays>=7 && noOfDays<=14){

interestgain = (amount\*4.50)/100;

}

**else if**(noOfDays>=15 && noOfDays<=29){

interestgain = (amount\*4.75)/100;

}

**else if**(noOfDays>=30 && noOfDays<=45){

interestgain = (amount\*5.50)/100;

}

**else if**(noOfDays>=45 && noOfDays<=60){

interestgain = (amount\*7.00)/100;

}

**else if**(noOfDays>=61 && noOfDays<=184){

interestgain = (amount\*7.50)/100;

}

**else if**(noOfDays>=185 && noOfDays<=365){

interestgain = (amount\*8.00)/100;

}

System.***out***.println("Interestgain: "+interestgain);

}

}

**else**{

**if**(noOfDays>=7 && noOfDays<=14){

interestgain = (amount\*6.50)/100;

}

**else if**(noOfDays>=15 && noOfDays<=29){

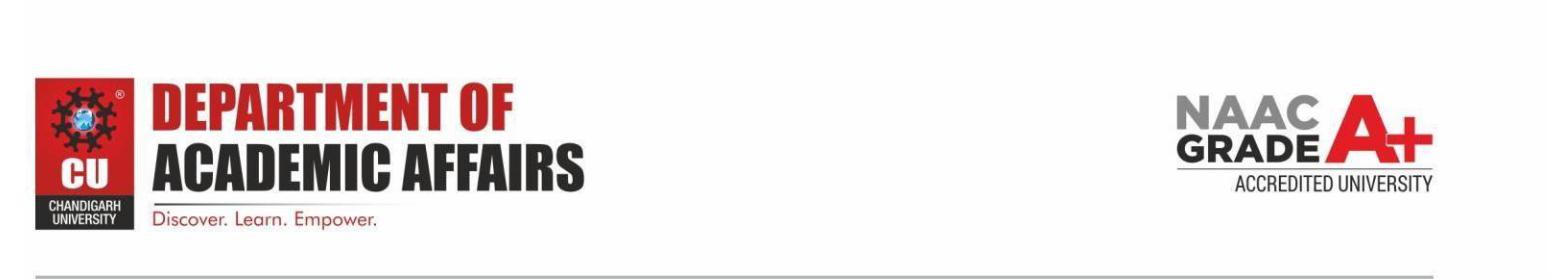
interestgain = (amount\*6.75)/100;

}

**else if**(noOfDays>=30 && noOfDays<=45){

interestgain = (amount\*6.75)/100;





}

**else if**(noOfDays>=45 && noOfDays<=60){

interestgain = (amount\*8.00)/100;

}

**else if**(noOfDays>=61 && noOfDays<=184){

interestgain = (amount\*8.50)/100;

}

**else if**(noOfDays>=185 && noOfDays<=365){

interestgain = (amount\*10.00)/100;

}

System.***out***.println("Interestgain: "+interestgain);

}

}

}

**class** RDAccount{

**double** amount;

**int** noOfmonths;

**int** ageofAcHolder;

**public** RDAccount(**double** a,**int** b,**int** c){

amount = a;

noOfmonths = b;

ageofAcHolder = c;

}

**double** interestgain=0.0;

**void** calculateInterest(){

**if**(ageofAcHolder>=65){

**if**(noOfmonths>=6 && noOfmonths<9){

interestgain = (amount\*8.00)/100;

}

**else if**(noOfmonths>=9 && noOfmonths<12){

interestgain = (amount\*8.25)/100;

}

**else if**(noOfmonths>=12 && noOfmonths<15){

interestgain = (amount\*8.50)/100;

}

**else if**(noOfmonths>=15 && noOfmonths<18){

interestgain = (amount\*8.75)/100;

}

**else if**(noOfmonths>=18 && noOfmonths<21){

interestgain = (amount\*9.00)/100;

}

**else if**(noOfmonths>=21 && noOfmonths<=24){

interestgain = (amount\*9.25)/100;

}

System.***out***.println("Interestgain "+ interestgain);

}

**else**{

**if**(noOfmonths>=6 && noOfmonths<9){

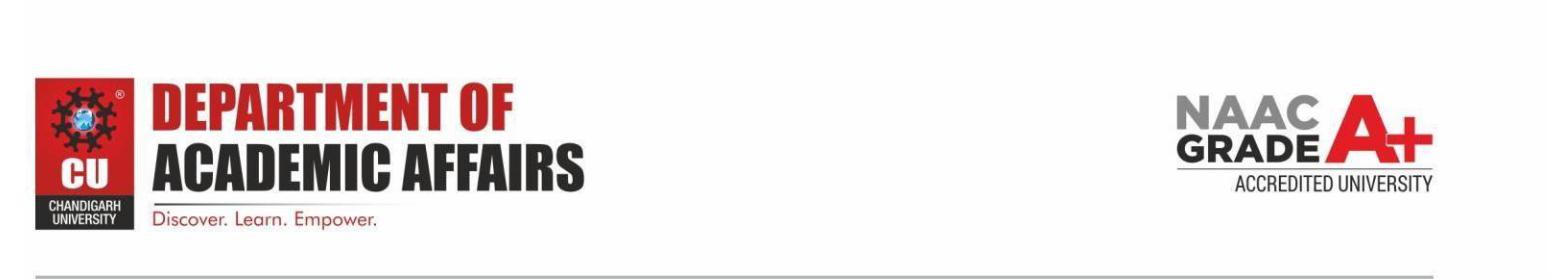
interestgain = (amount\*7.50)/100;

}

**else if**(noOfmonths>=9 && noOfmonths<12){

interestgain = (amount\*7.75)/100;





}

**else if**(noOfmonths>=12 && noOfmonths<15){

interestgain = (amount\*8.00)/100;

}

**else if**(noOfmonths>=15 && noOfmonths<18){

interestgain = (amount\*8.25)/100;

}

**else if**(noOfmonths>=18 && noOfmonths<21){

interestgain = (amount\*8.50)/100;

}

**else if**(noOfmonths>=21 && noOfmonths<=24){

interestgain = (amount\*8.75)/100;

}

System.***out***.println("Interestgain "+ interestgain);

}

}

}

**class** SBaccount{

**double** amount;

String accountType;

**public** SBaccount(**double** a,String b){

amount = a;

accountType = b;

}

**double** interestgain=0.0;

**void** calculateInterest(){

**if**(accountType=="Normal"){

interestgain = (amount\*4)/100;

}

**else if**(accountType=="NRI"){

interestgain = (amount\*6)/100;

}

System.***out***.println("Interestgain "+interestgain);

}

}

**public class** exp3

{

**public static void** main(String[] args) {

Scanner sc = **new** Scanner(System.***in***);

// goto

System.***out***.println("1. Interest Calculator –FD");

System.***out***.println("2. Interest Calculator –RD");

System.***out***.println("3. Interest Calculator –SB");

System.***out***.println("4. Exit");

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

**int** a = sc.nextInt();

**if**(a==1){

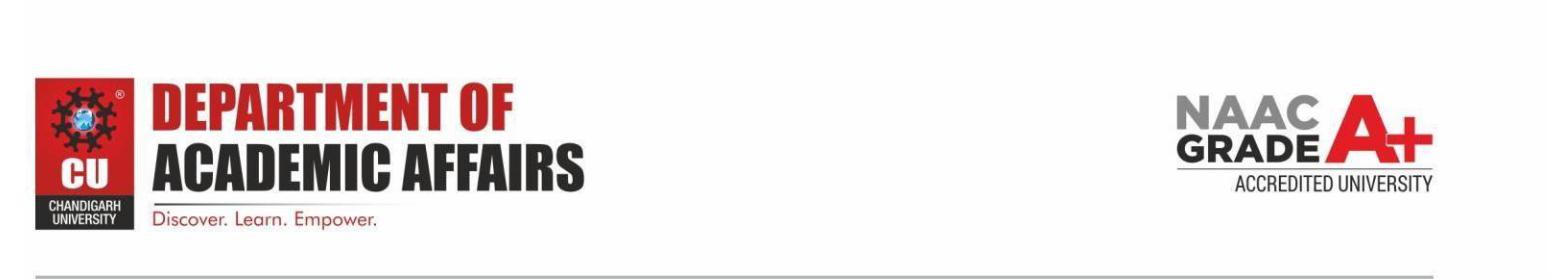
System.***out***.println("Enter Amount ");

**double** amount = sc.nextDouble();

System.***out***.println("Enter no of days ");

**int** days = sc.nextInt();





System.***out***.println("Enter age of person ");

**int** age = sc.nextInt();

FDAccount f = **new** FDAccount(amount,days,age);

f.calculateInterest();

// continue flag;

}

**else if**(a==2){

System.***out***.println("Enter Amount ");

**double** amount = sc.nextDouble();

System.***out***.println("Enter no of months ");

**int** months = sc.nextInt();

System.***out***.println("Enter age of person ");

**int** age = sc.nextInt();

RDAccount rd = **new** RDAccount(amount,months,age);

rd.calculateInterest();

// continue flag;

}

**else if**(a==3){

System.***out***.println("Enter Amount ");

**double** amount = sc.nextDouble();

System.***out***.println("Enter type of account ");

String type = sc.next();

SBaccount sb = **new** SBaccount(amount,type);

sb.calculateInterest();

// continue flag;

}

**else if**(a==4){

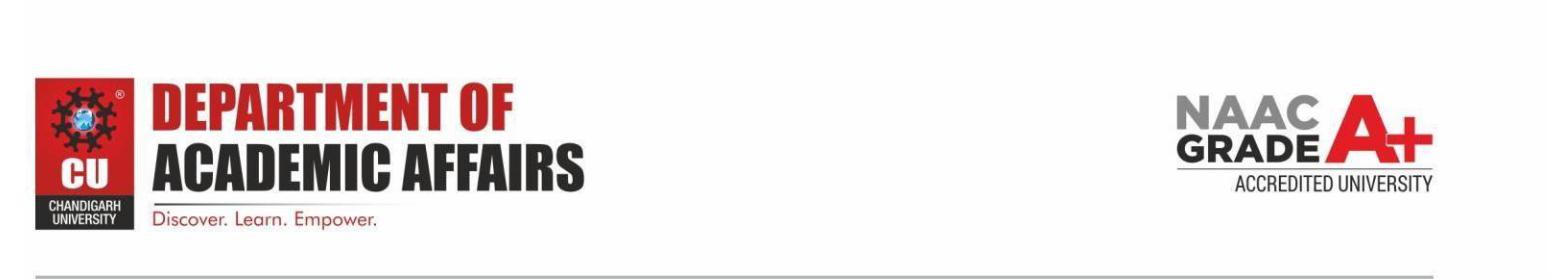
System.*exit*(0);

}

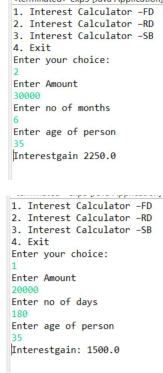
}

}





**4. Result/Output/Writing Summary:**



**Learning outcomes (What I have learnt):**

1. Learn how to implement all the functions in JAVA
2. Learn about return and without return functions concept.
3. Learn about arguments.
4. Learn about difference between simple and parameterized function.
5. Learn how to write code in JAVA, about indentation

**Evaluation Grid (To be created as per the SOP and Assessment guidelines by the faculty):**

|  |  |  |  |
| --- | --- | --- | --- |
| Sr. No. | Parameters | Marks Obtained | Maximum Marks |
| 1. |  |  |  |
| 2. |  |  |  |
| 3. |  |  |  |

