TERMWORK 8.1

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Write java program that takes the value of num variable and checks it is odd, then the throw keyword

will raise the user defined exception and the catch block will get executed. OddNumberException class is

derived from the Exception class. To implement user defined exception throw an exception object

explicitly.

**Program Source Code**

package practice;

import java.util.Scanner;

class OddNumberException extends Exception {

OddNumberException(String m){

super(m);

}

public String toString() {

return "You just entered an odd number.";

}

}

public class Eight {

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

System.out.print("Enter an integer: ");

int num = sc.nextInt();

try {

if(num%2!=0) {

throw new OddNumberException("odd number encountered");

}

else

System.out.println("You entered an even number.");

}

catch(OddNumberException e) {

System.out.println(e.getMessage());

System.out.println(e);

}

}

}

**Output:**

Case -1 :

Enter an integer: 5

odd number encountered

You just entered an odd number.

Case -2 :

Enter an integer: 4

You entered an even number.

TERMWORK 8.2

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**Practice Problem:**

Demonstrate a class CustomerAccount that has acctNum, custName and balance as member

variables and a constructor to initialize these.Implement withDraw and depositAmount methods

that accepts amount as argument and it must throw an user defined exception

calledInsufficientBalalance/InvalidAmount exception when amount is greater than balance/ amount

is negative respectively. Design two classes InsufficientBalance and InvalidAmount that extend the

Exception class and override toString method.Demonstrate the working of the user defined

exceptions by instantiating an object of customerAccount class and invokingwithDrawand

depositAmount in try…catch….finally block.

**Source Code :**

package tw8p;

import java.util.Scanner;

class CustomerAccount{ // class CustomerAccount is created

int accNo;

String custName;

double balance;// required variables are initialised

CustomerAccount(int accNo,StringcustName,double balance)// constructor of the class

{

this.accNo = accNo;

this.custName = custName;

this.balance = balance;

}

void withdrawAmt(double Amt) // method used to withdraw the amount

{

try{// try block to check for exception when the amt is withdrawn

if(balance-Amt <0)

throw new InsufficientBalException("Insufficient Balance");

balance-=Amt;

System.out.println("Balance in the account is "+ balance);

}

catch (InsufficientBalException e) // catch block to deal with the insufficient Balance Exception

{

System.out.println(e.getMessage());

System.out.println(e);

System.out.println();

}

}

void depositAmt(double Amt) // method used to deposit the amount

{

try // try block to check for exception while depositing the amount

{

if(Amt<0)

throw new InvalidAmtException("Invalid amount");

balance+=Amt;

System.out.println("Balance in the account is "+ balance);

}

catch( InvalidAmtException e) // catch block to deal with the invalid amount exception

{

System.out.println(e.getMessage());

System.out.println(e);

System.out.println();

}

}

}

class InsufficientBalException extends Exception{ /\* subclass insufficientBalException is extending

superclass Exception\*/

InsufficientBalException(String msg)

{

super(msg);

}

public String toString()// toString method is overrided

{

return "Amount can't be withdrawm as there is insufficient Balance";

}

}

class InvalidAmtException extends Exception{/\* subclass invalidAmtException is extending

superclass Exception\*/

InvalidAmtException(String msg)

{

super(msg);

}

public String toString()// toString method is overrided

{

return "Can't deposit as amount is negative";

}

}

public class Tw8p {

public static void main(String[] args) {

CustomerAccount c =new CustomerAccount(101,"Amit shah",1000);/\*object is instantiated of the

class CustomerAccount \*/

c.depositAmt(-500);// depositAmt method is called

c.withdrawAmt(1200);// withdrawAmt method is called

c.depositAmt(1500);

c.withdrawAmt(1000);

}

}

**OUTPUT**

Invalid amount

Can't deposit as amount is negative

Insufficient Balance

Amount can't be withdrawm as there is insufficient Balance

Balance in the account is 2500.0

Balance in the account is 1500.0

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TERMWORK 1

enter the student data

Enter the marks of the Student:1

40 50 60

Enter the marks of the Student:2

59 60 70

Enter the marks of the Student:3

80 85 90

Enter the marks of the Student:4

14 69 55

Enter the marks of the Student:5

12 88 57

result :-

student 1

total/300 150

average :55.0

student 2

total/300 189

average :65.0

student 3

total/300 255

average :87.0

student 4

total/300 138

average :62.0

student 5

total/300 157

average :72.0