**JAVA Assignment – 2**

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Q – 1) Write a java program to accept the details of product as productcode, productname and weight. If weight > 100 then throw an exception as InvalidProduct Exception and give the proper message. Otherwise display the product details. Define required exception class.

import java.util.\*;

import java.lang.Exception;

class InvalidProduct extends Exception {

    public InvalidProduct(String s) {

        super(s);

    }

}

public class Ass2Pro1 {

    void productWeight(int code, String name, Float weight) throws InvalidProduct {

        if (weight > 100) {

            throw new InvalidProduct("Product Is Invalid");

        } else {

            System.out.println(" Product Is Valid ");

            System.out.println("Product Code is : " + code);

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

            System.out.println("Product Weight is : " + weight);

        }

    }

    public static void main(String[] args) {

        Ass2Pro1 obj = new Ass2Pro1();

        try {

            Scanner SC = new Scanner(System.in);

            System.out.print("Enter The Product Code : ");

            int pcode = SC.nextInt();

            System.out.print("Enter The Product Name : ");

            String pname = SC.next();

            System.out.print("Enter The Product Weight : ");

            float pweight = SC.nextFloat();

            obj.productWeight(pcode, pname, pweight);

        } catch (InvalidProduct e) {

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

        }

    }

}

Q – 2) Write a Java program to accept email address of a user and throw a user defined exception InvalidEmailException if it starts with digit or does not contain @ symbol.

import java.util.\*;

import java.lang.Exception;

class InvalidEmailException extends Exception {

    public InvalidEmailException(String s) {

        super(s);

    }

}

public class Ass2Pro2 {

    void email(String email) throws InvalidEmailException {

        char emailArray[] = email.toCharArray();

        boolean emailbool = Character.isDigit(emailArray[0]);

        if (emailbool) {

            throw new InvalidEmailException("First Character Of Your Email Is Degit. So Please Write Alphabet.");

        } else {

            if (email.contains("@")) {

                System.out.println("Your Email Is :" + email);

            } else {

                throw new InvalidEmailException("@ is required In Your Email.");

            }

        }

    }

    public static void main(String[] args) {

        Ass2Pro2 obj = new Ass2Pro2();

        try {

            Scanner SC = new Scanner(System.in);

            System.out.print("Enter The Your Email : ");

            String uemail = SC.next();

            obj.email(uemail);

        } catch (InvalidEmailException e) {

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

        }

    }

}

Q – 3) Write an application that will accept details of items such as items such as itemcode, description, quantity and rate.

Accept details of 4 different items in an array of objects.

Fire user defined exception if quantity or price is less than or equal to zero.

Display the accepted 4 different items details on console.

import java.util.\*;

import java.lang.Exception;

class InvalidInput extends Exception {

    public InvalidInput(String s) {

        super(s);

    }

}

class items {

    Scanner sc = new Scanner(System.in);

    int itemcode;

    String desc;

    int quantity;

    double rate;

    void input(int i) {

        System.out.println("");

        System.out.print("Enter " + (i + 1) + " Item Code : ");

        itemcode = sc.nextInt();

        System.out.print("Enter " + (i + 1) + " Item Describtion : ");

        desc = sc.next();

        System.out.print("Enter " + (i + 1) + " Item Quantity : ");

        quantity = sc.nextInt();

        System.out.print("Enter " + (i + 1) + " Item Rate : ");

        rate = sc.nextDouble();

    }

    void show(int i) {

        System.out.println("");

        System.out.println((i + 1) + " Item Code : " + itemcode);

        System.out.println((i + 1) + " Item Describtion : " + desc);

        System.out.println((i + 1) + " Item Quantity : " + quantity);

        System.out.println((i + 1) + " Item Rate : " + rate);

    }

}

public class Ass2Pro3 {

    public static void main(String[] args) {

        Ass2Pro3 obj = new Ass2Pro3();

        try {

            System.out.println("Enter 5 item's Details");

            items e[] = new items[4];

            for (int i = 0; i < 4; i++) {

                e[i] = new items();

                e[i].input(i);

                if (e[i].quantity <= 0 || e[i].rate <= 0) {

                    System.out.println("");

                    throw new InvalidInput("Please Enter Quantity And Rate More Then 0.");

                }

            }

            System.out.println("--------Item's Details--------");

            for (int q = 0; q < 4; q++) {

                e[q].show(q);

            }

        } catch (InvalidInput e) {

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

        }

    }

}

Q – 4) Write a java program which stores the username and password in two variables.

If username and password are not same, then raise exception “Invalid Password ”

With appropriate message.

import java.util.\*;

import java.lang.Exception;

class InvalidInput extends Exception {

    public InvalidInput(String s) {

        super(s);

    }

}

public class Ass2Pro4 {

    void detail(String name, String pass) throws InvalidInput {

        String t\_username = "Rohan";

        String t\_password = "Rohan1970";

        if (t\_username.equals(name) && t\_password.equals(pass)) {

            System.out.println("");

            System.out.println("valid Username And Password.");

        } else {

            System.out.println("");

            throw new InvalidInput("Invalid Username And Password.")

        }

    }

    public static void main(String[] args) {

        Ass2Pro4 obj = new Ass2Pro4();

        try {

            Scanner SC = new Scanner(System.in);

            System.out.print("Enter The Username : ");

            String u\_name = SC.next();

            System.out.print("Enter The Password : ");

            String pass = SC.next();

            obj.detail(u\_name, pass);

        } catch (InvalidInput e) {

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

        }

    }

}

Q – 5) Write an application which will accept a number from command line. If number is not divisible by 7, then throw “notDivisibleBy7” user defined Exception.

import java.util.\*;

import java.lang.Exception;

class InvalidDiv extends Exception {

    public InvalidDiv(String s) {

        super(s);

    }

}

public class Ass2Pro5 {

    void check(int val) throws InvalidDiv {

        if(val % 7 == 0){

            System.out.println("");

            System.out.println("Number is divisible by 7.");

        }else{

            System.out.println("");

            throw new InvalidDiv("Number is not divisible by 7.");

        }

    }

    public static void main(String[] args) {

        Ass2Pro5 obj = new Ass2Pro5();

        try {

            Scanner SC = new Scanner(System.in);

            int num = Integer.parseInt(args[0]);

            obj.check(num);

        } catch (InvalidDiv e) {

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

        }

    }

}

Q – 6) Accept a string from command line, if the string is in uppercase then throw user defined exception.

import java.util.\*;

import java.lang.Exception;

class InvalidString extends Exception {

    public InvalidString(String s) {

        super(s);

    }

}

public class Ass2Pro6 {

    void check(String str) throws InvalidString {

        if (str.equals(str.toUpperCase())) {

            System.out.println("");

            throw new InvalidString("Your String In Uppercase.");

        } else {

            System.out.println("");

            System.out.println("Your String In Lowercase.");

        }

    }

    public static void main(String[] args) {

        Ass2Pro6 obj = new Ass2Pro6();

        try {

            obj.check(args[0]);

        } catch (InvalidString e) {

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

        }

    }

}

Q – 7) Write a java program to create own exception for Negative Value Exception if the user enter negative value.

import java.util.\*;

import java.lang.Exception;

class InvalidValue extends Exception {

    public InvalidValue(String s) {

        super(s);

    }

}

public class Ass2Pro7 {

    void check(int value) throws InvalidValue {

        if (value < 0) {

            System.out.println("");

            throw new InvalidValue("Your Value " + value + " Is Negative.");

        } else {

            System.out.println("");

            System.out.println("Your Value " + value + " Is Positive.");

        }

    }

    public static void main(String[] args) {

        Ass2Pro7 obj = new Ass2Pro7();

        try {

            Scanner sc = new Scanner(System.in);

            System.out.print("Enter Value : ");

            int val = sc.nextInt();

            obj.check(val);

        } catch (InvalidValue e) {

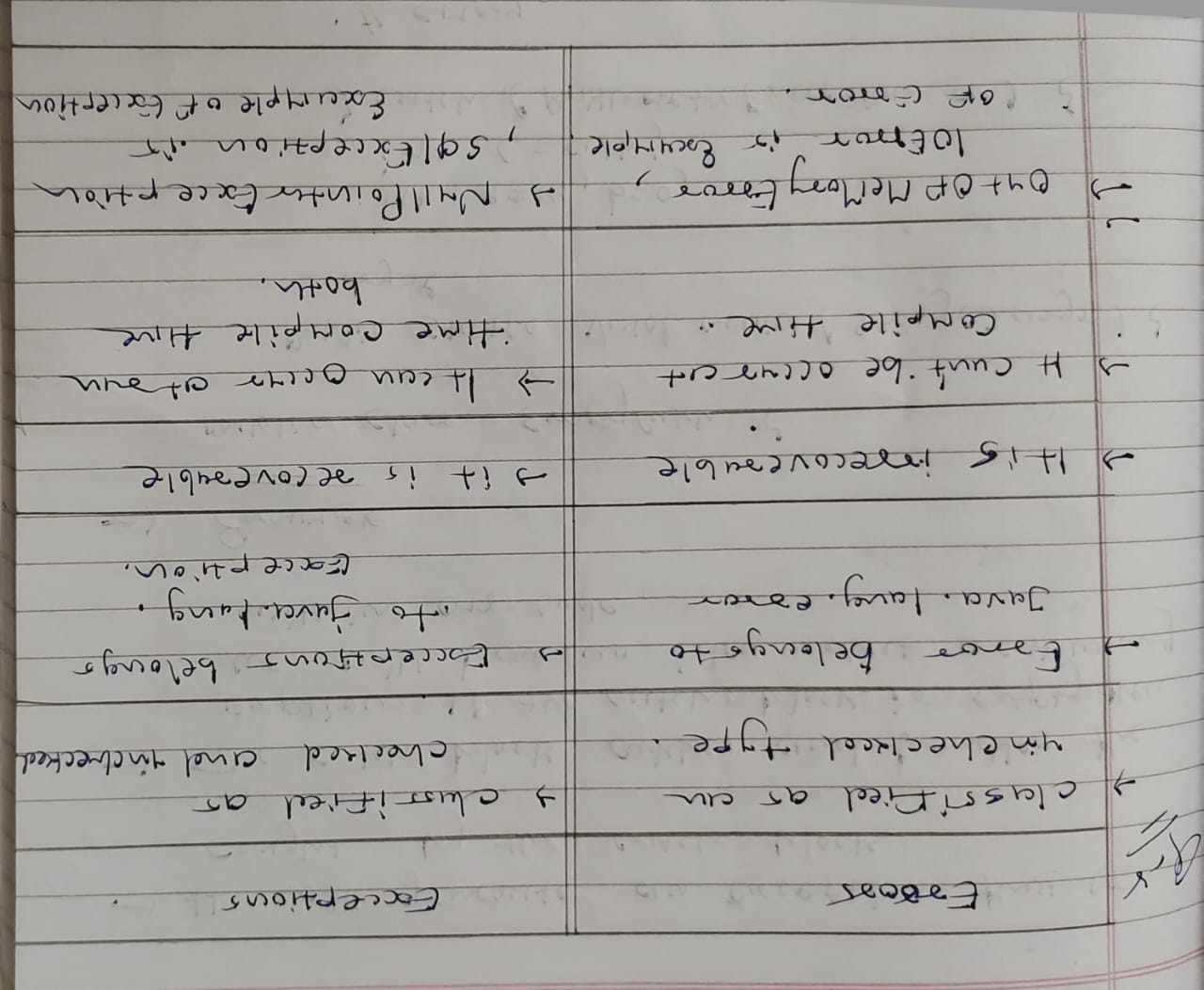
            System.out.println(e.getMessage());

        }

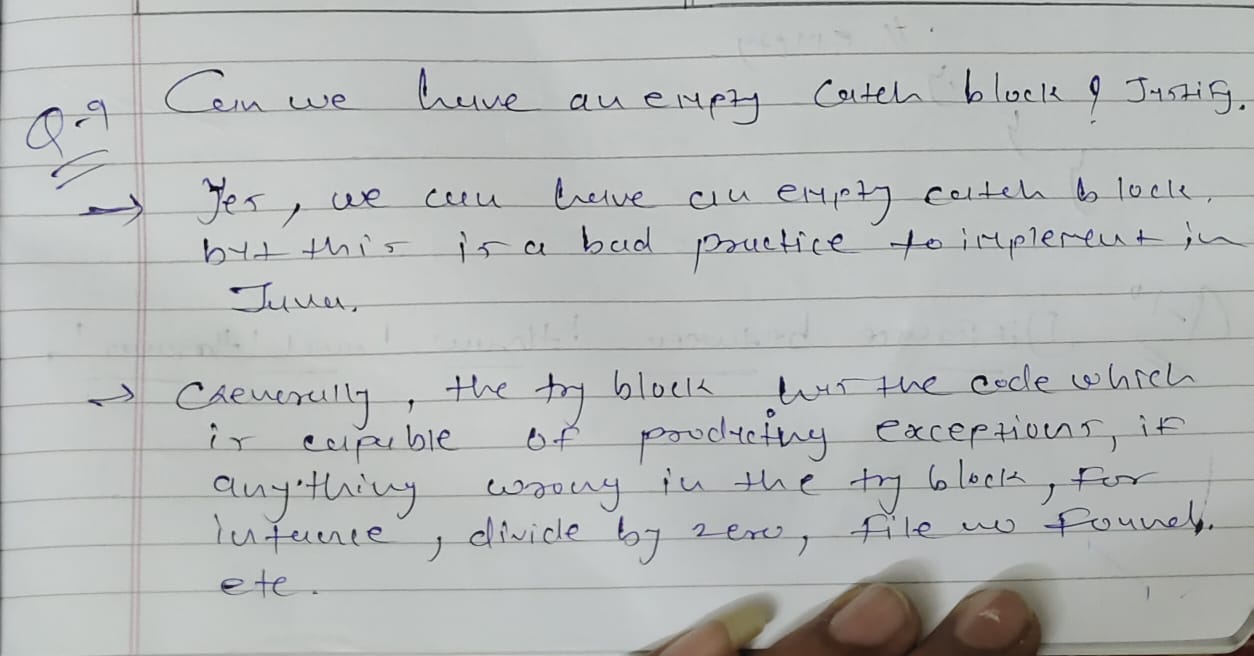
    }

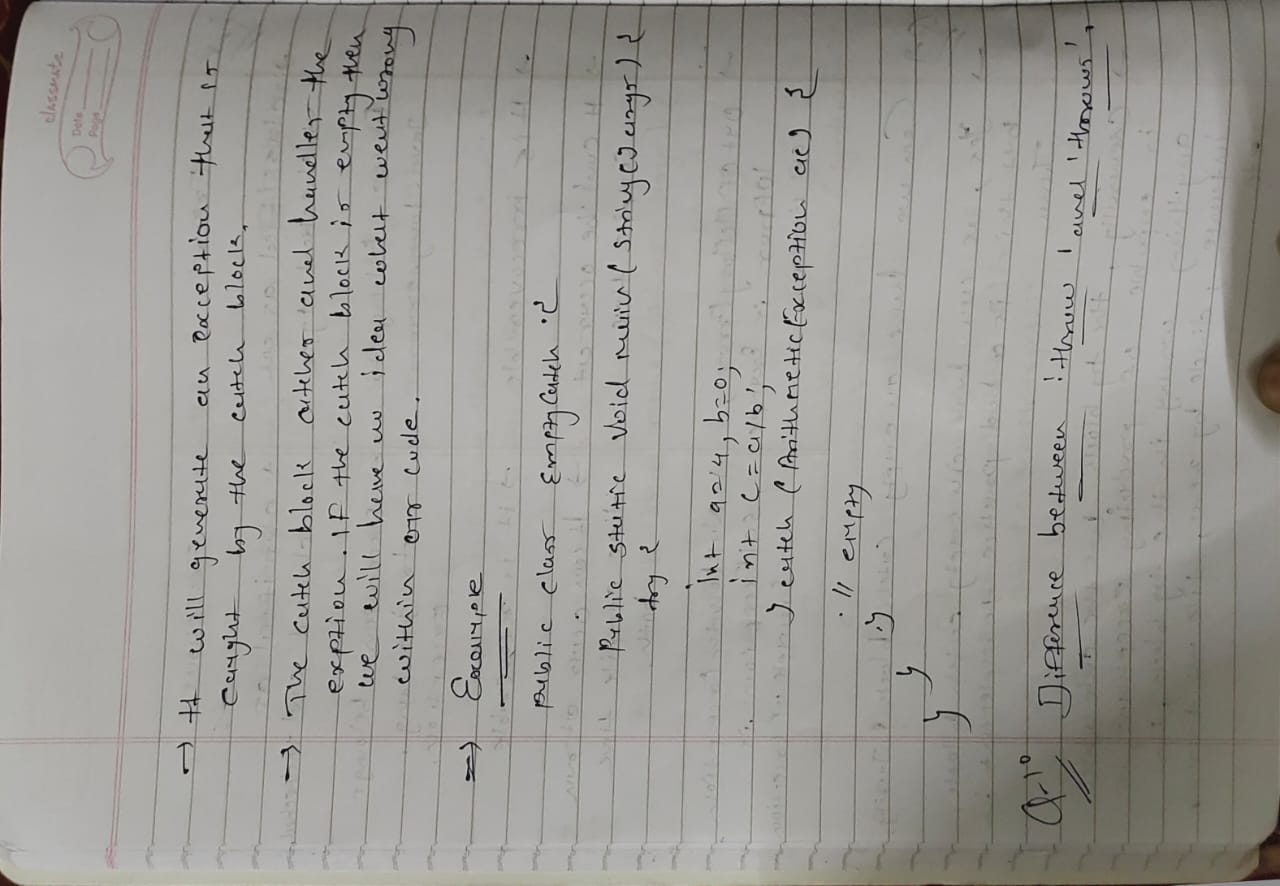
}

Q – 8) What is the difference between ‘Exception' and ‘error' in java?



Q – 9) Can we have an empty catch block? Justify.





Q – 10) What is the difference between ‘throw' and ‘throws' ?And it's application?

