CSE1007- Java Programming

Lab Assessment 4

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LAB - L5 + L6

Question (no 1)

1. An ABC company wants to digitalize the entry of the employee data. When it is manually fed by the operators, there creates various error such as customer ID was not existing, No suchcustomer found, file not found, typemismatch etc. Write a java program to handle this situation so by creating user defined Exception so that the data entry should be given warning when trying to store irrelevant data. All the data to be stored in any derived data structures such as array or structure or class. If the data entry operator entered any character in the employee id, "The Employee ID is incorrect" message should be displayed and the correct entry to be stored into the array. Similarly, if the employee name contains any digit or special characters, then the "Customer name is not valid" message should be displayed to store correct information into the array. Also try to retrieve the customer name and check whether his information such as id, name, age, phone number are stored in the user defined data structure .

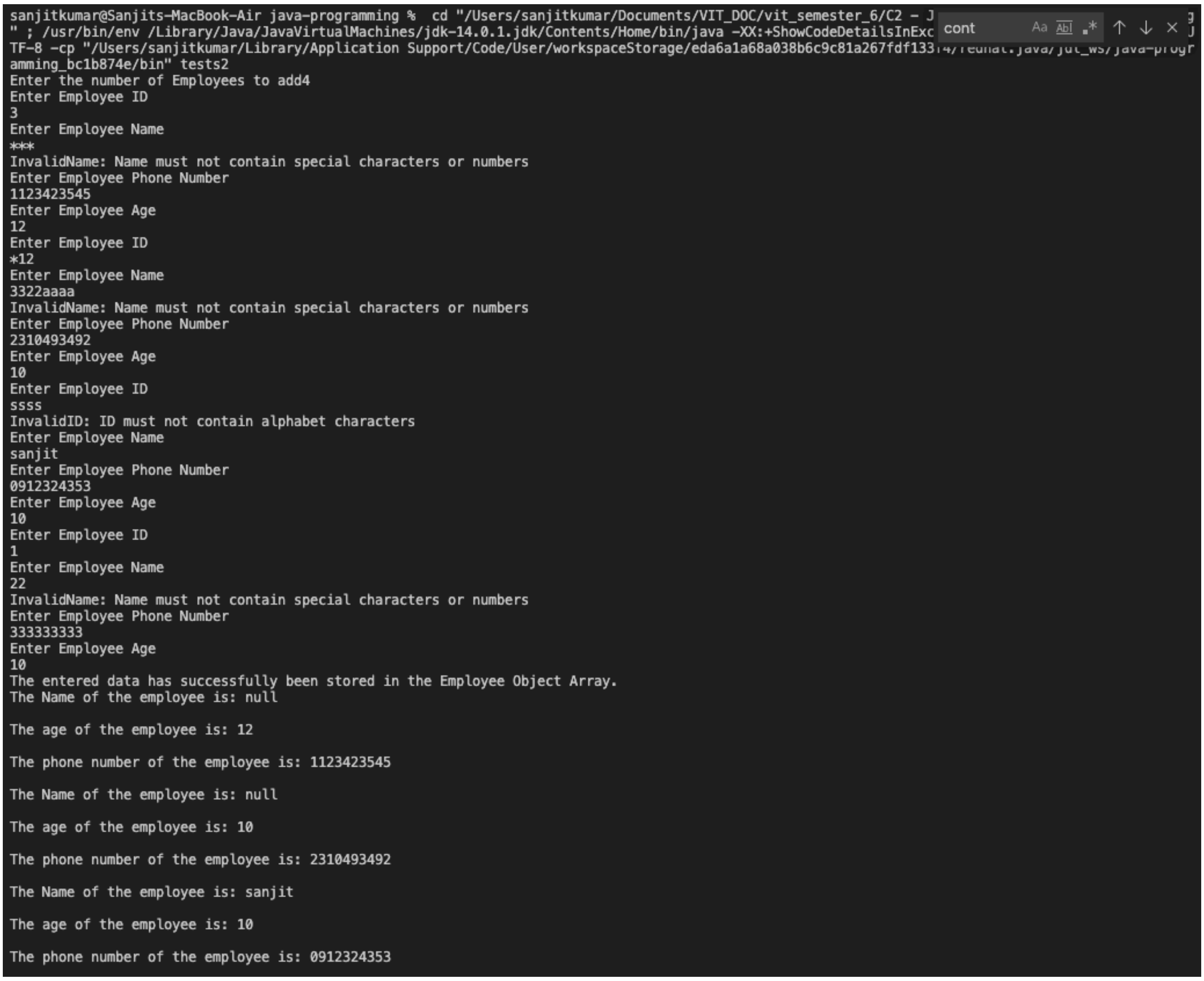
Source Code

```
import java.util.*;
import java.util.regex.*;

class InvalidName extends Exception {
    InvalidName(String s) {
        super(s);
    }
}

class InvalidID extends Exception {
    InvalidID(String s) {
        super(s);
    }
}

class Employee11 {
    String name, age, phone, id;
    void get_data(){
        System.out.println("The Name of the employee is: "+this.name+"\n");
        System.out.println("The age of the employee is: "+this.age+"\n");
        System.out.println("The phone number of the employee is: "+this.phone+"\n");
    }

}

public class tests2 {
    static void validatename(String name) throws InvalidName {
        Pattern my_pattern = Pattern.compile("[^a-z ]", Pattern.CASE_INSENSITIVE);
        Matcher my_match = my_pattern.matcher(name);
        if (my_match.find()) {
            throw new InvalidName("Name must not contain special characters or numbers");
        }
    }

    static void validateid(String name) throws InvalidID {
        Pattern my_pattern = Pattern.compile("[a-z]", Pattern.CASE_INSENSITIVE);
        Matcher my_match = my_pattern.matcher(name);
        if (my_match.find()) {
            throw new InvalidID("ID must not contain alphabet characters");
        }
    }

    public static void main(String args[]) {
        // System.out.println("Hello World!");
        Scanner s = new Scanner(System.in);
        Employee11[] obj = new Employee11[100];
        int count = 0;
        String temp;
        System.out.print("Enter the number of Employees to add");
        int n = s.nextInt();
        for (int i = 0; i < n; i++) {
            obj[i] = new Employee11();
            System.out.println("Enter Employee ID");
            temp = s.next();
            try {
                validateid(temp);
                obj[i].id = temp;
            } catch (Exception e) {
                System.out.println(e);
            }
            System.out.println("Enter Employee Name");
            temp = s.next();
            try {
                validatename(temp);
                obj[i].name = temp;
            } catch (Exception e) {
                System.out.println(e);
            }
            System.out.println("Enter Employee Phone Number");
            temp = s.next();
            try {
                obj[i].phone = temp;
            } catch (Exception e) {
                System.out.println(e);
            }
            System.out.println("Enter Employee Age");
            temp = s.next();
            try {
                obj[i].age = temp;
            } catch (Exception e) {
                System.out.println(e);
            }
            count++;
        }
        System.out.println("The entered data has successfully been
stored in the Employee Object Array.");

        for (int i=0;i<count;i++){
            obj[i].get_data();
        }
        }
}
```

Output

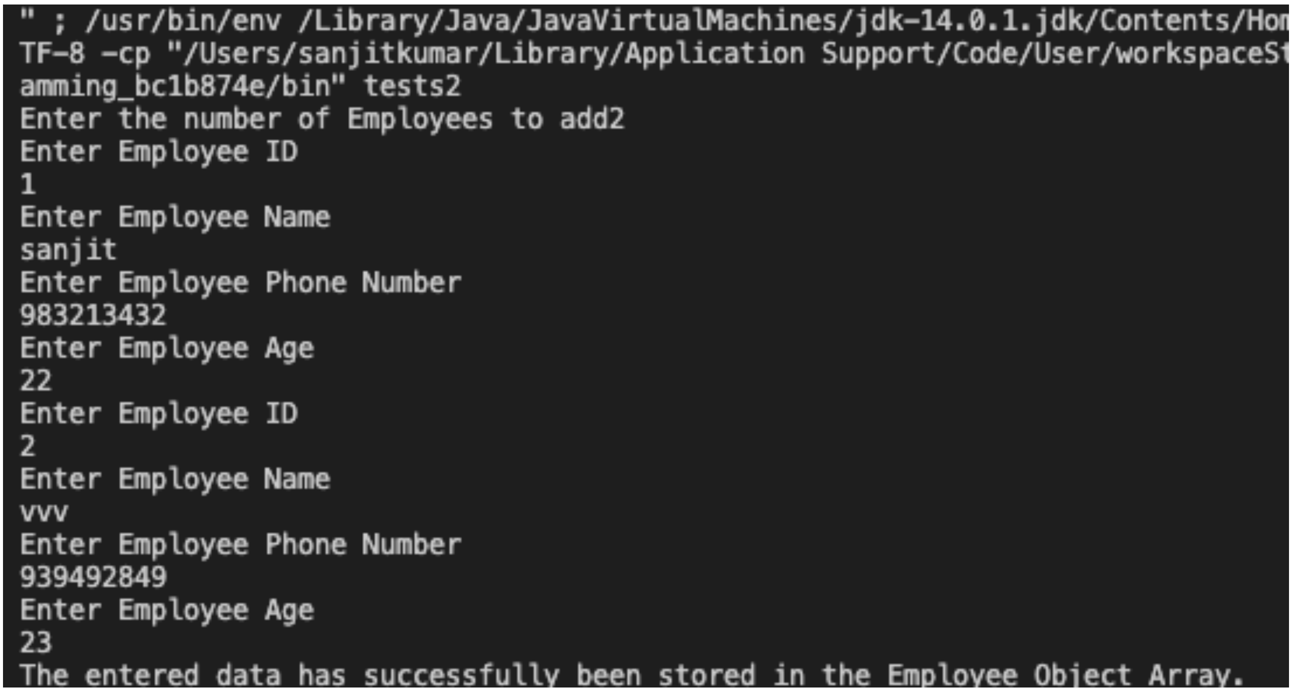
Incorrect Fields added, Custom Exceptions Thrown

Added fields are retrieved and shown



```
sanjitkumar@Sanjits-MacBook-Air java-programming %  cd "/Users/sanjitkumar/Documents/VIT_DOC/vit_semester_6/C2 - J
" ; /usr/bin/env /Library/Java/JavaVirtualMachines/jdk-14.0.1.jdk/Contents/Home/bin/java -XX:+ShowCodeDetailsInExc
TF-8 -cp "/Users/sanjitkumar/Library/Application Support/Code/User/workspaceStorage/eda6a1a68a038b6c9c81a267fdf13314/redhat.java/jdt_ws/java-progr
amming_bc1b874e/bin" tests2
Enter the number of Employees to add4
Enter Employee ID
3
Enter Employee Name
***
InvalidName: Name must not contain special characters or numbers
Enter Employee Phone Number
1123423545
Enter Employee Age
12
Enter Employee ID
*12
Enter Employee Name
3322aaaa
InvalidName: Name must not contain special characters or numbers
Enter Employee Phone Number
2310493492
Enter Employee Age
10
Enter Employee ID
ssss
InvalidID: ID must not contain alphabet characters
Enter Employee Name
sanjit
Enter Employee Phone Number
0912324353
Enter Employee Age
10
Enter Employee ID
1
Enter Employee Name
22
InvalidName: Name must not contain special characters or numbers
Enter Employee Phone Number
333333333
Enter Employee Age
10
The entered data has successfully been stored in the Employee Object Array.
The Name of the employee is: null

The age of the employee is: 12

The phone number of the employee is: 1123423545

The Name of the employee is: null

The age of the employee is: 10

The phone number of the employee is: 2310493492

The Name of the employee is: sanjit

The age of the employee is: 10

The phone number of the employee is: 0912324353
```

On adding the correct fields



```
" ; /usr/bin/env /Library/Java/JavaVirtualMachines/jdk-14.0.1.jdk/Contents/Hom
TF-8 -cp "/Users/sanjitkumar/Library/Application Support/Code/User/workspaceSt
amming_bc1b874e/bin" tests2
Enter the number of Employees to add2
Enter Employee ID
1
Enter Employee Name
sanjit
Enter Employee Phone Number
983213432
Enter Employee Age
22
Enter Employee ID
2
Enter Employee Name
vvv
Enter Employee Phone Number
939492849
Enter Employee Age
23
The entered data has successfully been stored in the Employee Object Array.
```