**Exception Handling**

**Exercise 1:***Create a class called Employee which asks the user to input the name and the age of a*

*employee. Raise a custom defined exception when the user enters an employee name*

*that has been already entered and raise another exception if the age is negative or less*

*than 18 or greater than 60.*

*Ans:*

*//StoringName*

*package com.customexception;*

*public class StoringName {*

*String[] arr=new String[]{"Chakshu","Sharma","Sachin","Tendulkar","Batman"};*

*}*

*//AgeException*

*package com.customexception;*

*public class AgeException extends StoringName{*

*private String name;*

*private int age;*

*public String getName() {*

*return name;*

*}*

*public int getAge() {*

*return age;*

*}*

*public void setName(String name) throws AgeCustExcep{*

*for(int i=0;i<arr.length-1;i++) {*

*if(arr[i].equals(this.name))*

*throw new AgeCustExcep("Name already Exists");*

*}*

*this.name = name;*

*}*

*public void setAge(int age) throws AgeCustExcep{*

*if(age<18 || age>60)*

*throw new AgeCustExcep("Age is invalid");*

*this.age = age;*

*}*

*public void oneMoreSetAge(int age) {*

*try {*

*if(age<18 || age>60)*

*throw new AgeCustExcep("Age is invalid");*

*this.age=age;*

*}*

*catch(AgeCustExcep ex) {*

*System.out.println("please enter Valid age");*

*}*

*}*

*public void oneMoreSetName(String name) {*

*try {*

*for(int i=0;i<arr.length-1;i++) {*

*if(arr[i].equals(this.name)) {*

*throw new AgeCustExcep("Name already Exsist");*

*}*

*this.name=name;*

*}*

*}*

*catch(AgeCustExcep ex) {*

*System.out.println(" Name already exists Please enter new name");*

*}*

*}*

*}*

*//AgeCustExcep*

*package com.customexception;*

*public class AgeCustExcep extends Exception{*

*//Checked Exception*

*public AgeCustExcep(String message) {*

*super(message);*

*}*

*}*

*//MainAge*

*package com.customexception;*

*import java.util.Scanner;*

*public class MainAge {*

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

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

*AgeException aOb=new AgeException();*

*System.out.println("Enter the name");*

*String name=scanner.next();*

*try {*

*aOb.setName(name);*

*} catch (AgeCustExcep e) {*

*System.out.println("Already existing name");*

*}*

*aOb.oneMoreSetName(name);*

*System.out.println("Enter Age : ");*

*int age=scanner.nextInt();*

*try {*

*aOb.setAge(age);*

*System.out.println("Person is eligible for voting");*

*} catch (AgeCustExcep e) {*

*System.out.println("As person age is "+age+" so not eligible for voting");*

*}*

*aOb.oneMoreSetAge(age);*

*}*

*}*

**Collection**

**Exercise 2:***Create a collection that will contain the names of the days in a week. Print the collection.*

*Display the length of the collection and convert the collection into an array and print it.*

*Ans:*

*package Collection;*

*import java.util.ArrayList;*

*import java.util.List;*

*public class NamesofDaysInWeek {*

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

*List<String> list=new ArrayList<String>();*

*list.add("Sun Day");*

*list.add("Mon Day");*

*list.add("TuesDay");*

*list.add("Wednesday");*

*list.add("Thursday");*

*list.add("Friday");*

*list.add("Saturday");*

*for(String s:list)System.out.println(s);*

*System.out.println("=====================");*

*System.out.println("Length of Collection : "+list.size());*

*String arr[]=new String[list.size()];*

*for(int i=0;i<list.size();i++) arr[i]=list.get(i);*

*System.out.println("=====================");*

*for(String s:arr) System.out.println(s);*

*}*

*}*

**Exercise 3:***Write a program to implement a telephone directory. Display the details.*

**Solution Guidance:**  *Name Phone no*

*ABC 1234*

*DEF 5678*

*package Collection;*

*import java.util.Iterator;*

*import java.util.Map;*

*import java.util.Set;*

*import java.util.TreeMap;*

*public class TelephoneDirectory {*

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

*Map<String,Integer> map=new TreeMap<String,Integer>();*

*map.put("ABC",785785788);*

*map.put("DEF",784645465);*

*map.put("MNO",984657457);*

*map.put("XYZ",879565875);*

*Set set=map.keySet();*

*Iterator iterator=set.iterator();*

*while(iterator.hasNext())*

*{*

*Object key=iterator.next();*

*Integer value=map.get(key);*

*System.out.println(key+" "+value);*

*}*

*}*

*}*

**Exercise 4:***Create a program to depict the usage of the dictionary where words along with the meanings are stored. When the user gives a word, its meaning should be displayed.*

*Ans:*

*package Collection;*

*import java.util.Iterator;*

*import java.util.Map;*

*import java.util.Scanner;*

*import java.util.Set;*

*import java.util.TreeMap;*

*public class Dictionary {*

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

*Map<String,String> map=new TreeMap<String,String>();*

*map.put("Concrete","A method wich has an implimentation");*

*map.put("Factory","A method which has Object creation logic");*

*map.put("Recursion","Process in which method calss itself continously");*

*map.put("Array","An Object which contains elements of similar data types");*

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

*System.out.println("Enter a word");*

*Set set=map.keySet();*

*Iterator iterator=set.iterator();*

*while(iterator.hasNext())*

*{*

*String word=scn.next();*

*String value=map.get(word);*

*System.out.println("Meaning of given word is : "+value);*

*}*

*}*

*}*

**Exercise 5:***Create a class called CD whose attributes are Title and singer.*

1. *Arrange the CDs in ascending order based on the singer name*
2. *Arrange the CDs in decending order Based on Title*