**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.*

*-🡪*

//StoringName

package com.customexception;

public class StoringName {

String[] arr=new String[]{"Purba","Roy","Virat","Kohli","Batsman"};

}

//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 exist");

}

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.*

*--🡪*

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("Sunday");

list.add("Monday");

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",785785722);

map.put("DEF",784644563);

map.put("MNO",984657457);

map.put("XYZ",879565847);

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.*

*🡪*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 which has an implementation");

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

map.put("Recursion","Process in which method calls itself continuously");

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*