**package** com.devlabs.assignment1;

**import** java.util.Scanner;

**public** **class** AreaOfTriangle {

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

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

System.***out***.println("Enter the base of the Triangle:");

**double** base = scanner.nextDouble();

System.***out***.println("Enter the height of the Triangle:");

**double** height = scanner.nextDouble();

//Area = (width\*height)/2

**double** area = (base\* height)/2;

System.***out***.println("Area of Triangle is: " + area);

}

}

**package** com.devlabs.assignment1;

**import** java.util.\*;

**public** **class** CurrentYearLeapYearOrNot {

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

**int** yearValue;

System.***out***.println("Enter an Year :: ");

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

yearValue = sc.nextInt();

**if** (((yearValue % 4 == 0) && (yearValue % 100!= 0)) || (yearValue%400 == 0))

System.***out***.println("The mentioned year is Leap year");

**else**

System.***out***.println("The mentioned year is not a Leap year");

}

}

**package** com.devlabs.assignment1;

**public** **class** EvenNumebrsEx {

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

**int** i = 0;

**while** (i <= 50/2) {

System.***out***.println(i \* 2);

i++;

}

}

}

**package** com.devlabs.assignment1;

**import** java.util.Scanner;

**public** **class** FactorialOfNumber {

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

**int** number,i;

**double** fact=1;

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

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

number=scan.nextInt();

**for**(i=1; i<number;i++)

{

fact=fact\*i;

//System.out.println("The factorial of number is"+ fact);

}

System.***out***.println("The factorial of number is "+ fact);

}

}

**package** com.devlabs.assignment1;

**import** java.util.Scanner;

**public** **class** FibonacciSeries {

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

**int** fib=0, number,n1=0,n2=1;

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

System.***out***.println("Enter the fibonacci series number till where you want to print");

number=scan.nextInt();

System.***out***.print(n1 +",");

System.***out***.print(n2);

**for**(**int** i=2; i<number;i++)

{

fib=n1+n2;

System.***out***.print( "," + fib );

n1=n2;

n2=fib;

}

}

}

**package** com.devlabs.assignment1;

**public** **class** PrimeNumbersEx {

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

{

**int** cP=0,n=0,i=1,j=1;

System.***out***.println("The first 10 prime numbers are:");

**while**(n<10)

{

j=1;

cP=0;

**while**(j<=i)

{

**if**(i%j==0)

cP++;

j++;

}

**if**(cP==2)

{

System.***out***.print(" "+ i);

n++;

}

i++;

}

}

}

}

**package** com.devlabs.assignment1;

**import** java.util.Scanner;

**public** **class** ReverseArrayEx {

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

**int**[] arr = **new** **int**[100]; //declaration

**int** temp=0;

**int** counter=0;

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

System.***out***.println("How many elements you want to enter: ");

counter = scanner.nextInt();

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

System.***out***.println("Enter the elements of the array");

**for**(**int** i=0;i<counter;i++)

{

arr[i] = reader.nextInt();

}

reader.close();

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

{

**for**(**int** j=i+1;j<arr.length;j++)

{

**if**(arr[i]<arr[j])

{

temp=arr[i];

arr[i]=arr[j];

arr[j]=temp;

}

}

}

System.***out***.println("The elements in desc order");

**for**(**int** i=0;i<counter;i++)

System.***out***.print(arr[i]+ " ");

}

}

**package** com.devlabs.assignment1;

**import** java.util.Scanner;

**public** **class** SortElementsOfArrayInAsc {

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

**int**[] arr = **new** **int**[5]; //declaration

**int** temp=0;

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

System.***out***.println("Enter the elements of the array");

**for**(**int** i=0;i<5;i++)

{

arr[i] = reader.nextInt();

}

reader.close();

//5 elements - 0 to 4

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

{

**for**(**int** j=i+1;j<arr.length;j++)

{

**if**(arr[i]>arr[j])

{

temp=arr[i];

arr[i]=arr[j];

arr[j]=temp;

}

}

}

System.***out***.println("The elements in asc order");

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

System.***out***.print(arr[i]+ " ");

}

}

**package** com.devlabs.assignment1;

**public** **class** SumOfNaturalNumbers {

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

**int** num = 20, count = 1, total = 0;

**while**(count <= num)

{

total = total + count;

count++;

}

System.***out***.println("Sum of first 20 natural numbers is: "+total);

}

}

**package** com.devlabs.assignment2;

**import** java.util.Scanner;

**public** **class** AvgOfArray {

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

**int**[] arr = **new** **int**[5]; //declaration

**int** sum =0;

**double** avg;

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

System.***out***.println("Enter the elements of the array");

**for**(**int** i=0;i<5;i++)

{

arr[i] = reader.nextInt();

}

reader.close();

//5 elements - 0 to 4

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

{

sum = sum + arr[i];

}

avg=sum/arr.length;

System.***out***.println("Sum is " +sum);

System.***out***.println("Avg is"+ avg);

}

}

**package** com.devlabs.assignment2;

**public** **class** DuplicatesInArray {

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

**int** [] arr = {12, 32, 12, 45, 65, 93, 0, 23, 45, 6};

System.***out***.println("Duplicate elements in given array: ");

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

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

**if**(arr[i] == arr[j])

System.***out***.println(arr[j]);

}

}

}

}

**package** com.devlabs.assignment2;

**public** **class** NumIsPrimeOrNot {

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

**int** num = 13;

**boolean** flag = **false**;

**for** (**int** i = 2; i <= num / 2; ++i) {

**if** (num % i == 0) {

flag = **true**;

**break**;

}

}

**if** (flag==**false**)

System.***out***.println(num + " is a prime number.");

**else**

System.***out***.println(num + " is not a prime number.");

}

}

**package** com.devlabs.assignment2;

**import** java.util.Scanner;

**public** **class** OddNumbersinRange {

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

**int** min=79, max=187;

*findOdd*(min, max);

}

**public** **static** **void** findOdd(**int** min, **int** max)

{

**int** i;

**if**(min % 2 != 0)

{

min++;

}

**for**(i = min; i <= max; i++)

{

**if**(i % 2 == 1)

{

System.***out***.print(i +"\t");

}

}

}

}

**package** com.devlabs.assignment2;

**import** java.util.Scanner;

**public** **class** ReverseOfNumber {

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

**int** num = 123, reversed = 0;

**while**(num != 0) {

**int** digit = num % 10;

reversed = reversed \* 10 + digit;

num =num/ 10;

}

System.***out***.println("Reversed Number: " + reversed);

}

}

**package** com.devlabs.assignment2;

**import** java.util.Scanner;

**public** **class** SumOfDigitsOfNumber {

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

{

**int** num, n, sum = 0;

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

System.***out***.print("Enter the number:");

num = s.nextInt();

**while**(num > 0)

{

n = num % 10;

sum = sum + n;

num = num / 10;

}

System.***out***.println("Sum of Digits: "+sum);

}

}

}

**package** com.devlabs.assignment3;

**public** **class** NestedTryBlocksEx {

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

**try**{

**try**

{

System.***out***.println("Division of a number by zero");

**int** b =45/0;

}

**catch**(ArithmeticException e)

{

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

}

**try**{

**int** a[]=**new** **int**[5];

a[5]=4;

}

**catch**(ArrayIndexOutOfBoundsException e)

{

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

}

System.***out***.println("other statements");

}

**catch**(Exception e)

{

System.***out***.println("Exception handeled");

}

System.***out***.println("normal flow..");

}

}

**package** com.devlabs.assignment3;

**import** java.util.HashMap;

**public** **class** OccuranceOfCharInString {

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

String str = "“DevLabs Alliance Training";

HashMap <Character, Integer> hMap = **new** HashMap<>();

**for** (**int** i = str.length() - 1; i >= 0; i--) {

**if** (hMap.containsKey(str.charAt(i))) {

**int** count = hMap.get(str.charAt(i));

hMap.put(str.charAt(i), ++count);

} **else** {

hMap.put(str.charAt(i),1);

}

}

System.***out***.println(hMap);

}

}

**package** com.devlabs.assignment3;

**import** java.util.Scanner;

**public** **class** PalindromeString {

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

{

String str, rev = "";

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

System.***out***.println("Enter a stringto check if it is palindrome or not:");

str = sc.nextLine();

**int** length = str.length();

**for** ( **int** i = length - 1; i >= 0; i-- )

rev = rev + str.charAt(i);

**if** (str.equals(rev))

System.***out***.println(str+" is a palindrome string");

**else**

System.***out***.println(str+" is not a palindrome string");

}

}

}

**package** com.devlabs.assignment3;

**public** **class** RethrowException {

**public** **static** **void** test1() **throws** Exception

{

System.***out***.println("The Exception occured in test1() method");

**throw** **new** Exception("thrown from the test1() method");

}

**public** **static** **void** test2() **throws** Throwable {

**try**

{

*test1*();

}

**catch**(Exception e)

{

System.***out***.println("Inside the test2() method");

**throw** e;

}

}

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

**try**

{

*test2*();

}

**catch**(Exception e)

{

System.***out***.println("Exception Caught in main method");

}

}

}

**package** com.devlabs.assignment3;

**public** **class** StringConversionEx {

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

String str1 = "A brown fox";

**char**[] cha = {'g', 'o', 'o', 'd', ' ', 'm', 'o', 'r', 'n', 'i', 'n', 'g'};

System.***out***.println("String: "+str1);

**char**[] ch = str1.toCharArray();

System.***out***.println("Character Array...");

**for** (**int** i = 0; i < ch.length; i++) {

System.***out***.print(ch[i]+" ");

}

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

System.***out***.println("character array to string is");

String str = **new** String(cha);

System.***out***.println(str);

}

}

**package** com.devlabs.assignment3;

**public** **class** SubstringNStringEx {

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

String str = "A brown fox ran away fast";

String substr = "brown";

**int** n1 = str.length();

**int** n2 = substr.length();

System.***out***.println("String: " + str);

System.***out***.println("Substring: " + substr);

**for** (**int** i = 0; i <= n1 - n2; i++)

{

**int** j;

**for** (j = 0; j < n2; j++)

{

**if** (str.charAt(i + j) != substr.charAt(j))

**break**;

}

**if** (j == n2) {

System.***out***.println("The substring is present in the string at index " + i);

**return**;

}

}

System.***out***.println("The substring is not present in the string");

}

}

**package** com.devlabs.assignment4;

**import** java.util.\*;

**public** **class** ArrayListOfStringsEx {

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

ArrayList<String> listofcountries = **new** ArrayList<String>();

listofcountries.add("Telangana");

listofcountries.add("Shimla");

listofcountries.add("Chennai");

listofcountries.add("Delhi");

System.***out***.println("Before Sorting:");

**for**(String counter: listofcountries){

System.***out***.println(counter);

}

Collections.*sort*(listofcountries);

System.***out***.println("After Sorting:");

**for**(String counter: listofcountries){

System.***out***.println(counter);

}

}

}

**package** com.devlabs.assignment4;

**import** java.util.\*;;

**public** **class** DuplicateCharsUsingHashMap

{

**public** **void** countDupChars(String str){

//Create a HashMap

Map<Character, Integer> map = **new** HashMap<Character, Integer>();

//Convert the String to char array

**char**[] chars = str.toCharArray();

**for**(Character ch:chars)

{

**if**(map.containsKey(ch))

{

map.put(ch, map.get(ch)+1);

}

**else**

{

map.put(ch, 1);

}

}

//Obtaining set of keys

Set<Character> keys = map.keySet();

**for**(Character ch:keys){

**if**(map.get(ch) > 1){

System.***out***.println("Char "+ch+" "+map.get(ch));

}

}

}

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

DuplicateCharsUsingHashMap obj = **new** DuplicateCharsUsingHashMap();

System.***out***.println("String:This is SDET Professional Course");

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

obj.countDupChars("This is SDET Professional Course");

System.***out***.println("\nString: Deepa Sharma");

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

obj.countDupChars("Deepa Sharma");

}

}

**package** com.devlabs.assignment4;

**import** java.util.\*;

**public** **class** HashSettoObjectArrayEx {

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

Set<Integer> hs = **new** HashSet<Integer>();

hs.add(815);

hs.add(741);

hs.add(8288);

hs.add(8923);

hs.add(9115);

hs.add(96783);

hs.add(96447);

hs.add(92349);

System.***out***.println("Elements in set = "+hs);

System.***out***.println("Copying all elements...");

Object[] obArr = hs.toArray();

**for** (Object ob : obArr)

System.***out***.println(ob);

}

}

**package** com.devlabs.assignment4;

**import** java.util.TreeSet;

**public** **class** HighestNLowestValluesOfTreeSet {

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

TreeSet<Integer> treeSet = **new** TreeSet<Integer>();

treeSet.add(5550);

treeSet.add(6100);

treeSet.add(1750);

treeSet.add(2080);

treeSet.add(2590);

treeSet.add(2300);

treeSet.add(4600);

treeSet.add(5070);

treeSet.add(8020);

treeSet.add(10100);

System.***out***.println("TreeSet Lowest value = " + treeSet.first());

System.***out***.println("TreeSet Highest value = " + treeSet.last());

}

}

**package** com.devlabs.assignment4;

**import** java.util.\*;

**public** **class** KeyExistsInHashMap {

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

//create HashMap object

HashMap hMap = **new** HashMap();

//add key value pairs to HashMap

hMap.put("1","SDET");

hMap.put("2","Professional");

hMap.put("3","Course");

hMap.put("Java", "Language");

**boolean** blnExists = hMap.containsKey("Java");

System.***out***.println("Key exists in HashMap ? : " + blnExists);

}

}

**package** com.devlabs.assignment4;

**import** java.util.\*;

**public** **class** MapToListEx {

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

Map<Integer, String> myMap = **new** HashMap<>();

myMap.put(1, "C");

myMap.put(2, "C++");

myMap.put(3, "Java");

myMap.put(4, "Python");

myMap.put(5,"Perl" );

ArrayList<Integer> keyList = **new** ArrayList<Integer>(myMap.keySet());

ArrayList<String> valueList = **new** ArrayList<String>(myMap.values());

System.***out***.println("contents of the list containing the keys the map ::"+keyList);

System.***out***.println("contents of the list containing values of the map ::"+valueList);

}

}

package com.devlabs.assignment4;

import java.util.ArrayList;

import java.util.Collections;

public class ReverseArrayList {

public static void main(String a[])

{

ArrayList arrayList = new ArrayList();

arrayList.add("Java");

arrayList.add("C");

arrayList.add("Selenium");

arrayList.add("UFT");

arrayList.add("Python");

System.out.println("Before Reverse Order: " + arrayList);

Collections.reverse(arrayList);

System.out.println("After Reverse Order: " + arrayList);

}

}

package com.devlabs.assignment4;

import java.util.Enumeration;

import java.util.Hashtable;

public class ViewOfKeysFromHashtable {

public static void main(String[] args) {

Hashtable ht = new Hashtable();

ht.put("Fruit", "Apple");

ht.put("Vegetable", "Onions");

ht.put("Flower", "Rose");

Enumeration e = ht.keys();

while (e.hasMoreElements()) {

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

}

}

}

--------------------------------------------------------------------------------------------------------------