**DSA BOOTCAMP ASSIGNMENT**

Q1. Write a program to Swap to two numbers.

ans-import java.util.\*;

class Swap\_With {

public static void main(String[] args) {

int x, y, t;// x and y are to swap

Scanner sc = new Scanner(System.in);

System.out.println("Enter the value of X and Y");

x = sc.nextInt();

y = sc.nextInt();

System.out.println("before swapping numbers: "+x +" "+ y);

t = x;

x = y;

y = t;

System.out.println("After swapping: "+x +" " + y);

System.out.println( );

}

}

Q2. Write a program to find the largest number among three numbers entered by the user.

ans- import java.util.Scanner;

public class Biggest\_Number

{

public static void main(String[] args)

{

int x, y, z;

Scanner s = new Scanner(System.in);

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

x = s.nextInt();

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

y = s.nextInt();

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

z = s.nextInt();

if(x > y && x > z)

{

System.out.println("Largest number is:"+x);

}

else if(y > z)

{

System.out.println("Largest number is:"+y);

}

else

{

System.out.println("Largest number is:"+z);

}

Q3. Write a program to check whether a year entered by a user is Leap year or not.

ans- import java.util.Scanner;

public class Check\_Leap\_Year

{

public static void main(String args[])

{

Scanner s = new Scanner(System.in);

System.out.print("Enter any year:");

int year = s.nextInt();

boolean flag = false;

if(year % 400 == 0)

{

flag = true;

}

else if (year % 100 == 0)

{

flag = false;

}

else if(year % 4 == 0)

{

flag = true;

}

else

{

flag = false;

}

if(flag)

{

System.out.println("Year "+year+" is a Leap Year");

}

else

{

System.out.println("Year "+year+" is not a Leap Year");

}

}

}

Q4. Write a program to display Fibonacci Series upto nth term. (Using loops)

ans- public class JavaExample {

public static void main(String[] args) {

int count = 7, num1 = 0, num2 = 1;

System.out.print("Fibonacci Series of "+count+" numbers:");

for (int i = 1; i <= count; ++i)

{

System.out.print(num1+" ");

int sumOfPrevTwo = num1 + num2;

num1 = num2;

num2 = sumOfPrevTwo;

}

}

}

Q5. Write a program to check whether a number is Prime or Not.

ans- import java.util.Scanner;

class PrimeCheck

{

public static void main(String args[])

{

int temp;

boolean isPrime=true;

Scanner scan= new Scanner(System.in);

System.out.println("Enter any number:");

int num=scan.nextInt();

scan.close();

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

{

temp=num%i;

if(temp==0)

{

isPrime=false;

break;

}

}

if(isPrime)

System.out.println(num + " is a Prime Number");

else

System.out.println(num + " is not a Prime Number");

}

}

Q6. Print this pattern using loops

For n=5

\*

\* \*

\* \* \*

\* \* \* \*

\* \* \* \* \*

ans-

import java.io.\*;

public class GeeksForGeeks

{

public static void printTriagle(int n)

{

for (int i=0; i<n; i++)

{

for (int j=n-i; j>1; j--)

{

System.out.print(" ");

}

for (int j=0; j<=i; j++ )

{

System.out.print("\* ");

}

System.out.println();

}

}

public static void main(String args[])

{

int n = 5;

printTriagle(n);

}

}

Q7.Write a program that takes n elements from the user and displays the second largest element of an array.

ans- import java.util.\*;

class GFG{

static void print2largest(int arr[],

int arr\_size)

{

int i, first, second;

if (arr\_size < 2)

{

System.out.printf(" Invalid Input ");

return;

}

Arrays.sort(arr);

for (i = arr\_size - 2; i >= 0; i--)

{

if (arr[i] != arr[arr\_size - 1])

{

System.out.printf("The second largest " +

"element is %d\n", arr[i]);

return;

}

}

System.out.printf("There is no second " +

"largest element\n");

}

public static void main(String[] args)

{

int arr[] = {12, 35, 1, 10, 34, 1};

int n = arr.length;

print2largest(arr, n);

}

}

Q8. Left Rotation

ans- class RotateArray {

void leftRotate(int arr[], int d, int n)

{

for (int i = 0; i < d; i++)

leftRotatebyOne(arr, n);

}

void leftRotatebyOne(int arr[], int n)

{

int i, temp;

temp = arr[0];

for (i = 0; i < n - 1; i++)

arr[i] = arr[i + 1];

arr[n-1] = temp;

}

void printArray(int arr[], int n)

{

for (int i = 0; i < n; i++)

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

}

public static void main(String[] args)

{

RotateArray rotate = new RotateArray();

int arr[] = { 1, 2, 3, 4, 5, 6, 7 };

rotate.leftRotate(arr, 2, 7);

rotate.printArray(arr, 7);

}

}

Q9. Grading Students

ans- import java.io.\*;

import java.util.\*;

import java.text.\*;

import java.math.\*;

import java.util.regex.\*;

public class Solution {

public static void main(String[] args) {

Scanner in = new Scanner(System.in);

int n = in.nextInt();

for(int a0 = 0; a0 < n; a0++){

int grade = in.nextInt();

if(grade < 38){

System.out.println(grade);

}

else{

int q = grade/5;

int rem = grade%5;

if(rem >= 3){

System.out.println((q+1)\*5);

}

else{

System.out.println(grade);

}

}

}

}

}

Q10. CamelCase

ans- class GFG

{

static String convert(String s)

{

int cnt= 0;

int n = s.length();

char ch[] = s.toCharArray();

int res\_ind = 0;

for (int i = 0; i < n; i++)

{

if (ch[i] == ' ')

{

cnt++;

ch[i + 1] = Character.toUpperCase(ch[i + 1]);

continue;

}

else

ch[res\_ind++] = ch[i];

}

return String.valueOf(ch, 0, n - cnt);

}

public static void main(String args[])

{

String str = "I attended the bootcamp organised by shapeai";

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

}

}