**RIGHT PATTERN**

import java.util.\*;

class TrianglePattern

{

public static void main(String[] args)

{

int i, j, rows;

Scanner sc = new Scanner(System.in);

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

rows = sc.nextInt();

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

{

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

{

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

}

System.out.println("");

}

for (i=rows-1; i>=0; i--)

{

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

{

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

}

System.out.println("");

}

}

}

**LARGEST ELEMENT IN A ARRAY**

import java.util.\*;

public class Main{

public static void main(String[] args){

Scanner sc = new Scanner(System.in);

System.out.print("Enter the array length: ");

int n = sc.nextInt();

int[] arr = new int[n];

System.out.print("Enter the array elements: ");

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

arr[i] = sc.nextInt();

int max=0;

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

if(arr[i] > max){

max = arr[i];

}

}

System.out.println("The largest number in the array is: "+max);

}

}

**TRIANGLE STAR PATTERN**

import java.util.Scanner;

public class Main

{

public static void main (String[]args)

{

int i, j, k, n;

Scanner sc = new Scanner (System.in);

System.out.print ("Enter the no of rows: ");

n = sc.nextInt ();

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

{

for (j = i; j < n; j++)

{

System.out.print (" ");

}

for (k = 1; k <= (2 \* i - 1); k++)

{

if (k == 1 || i == n || k == (2 \* i - 1))

{

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

}

else

{

System.out.print (" ");

}

}

System.out.println ("");

}

}

}

**TRIANGLE PATTERN**

import java.util.\*;

public class Main{

public static void main(String[] args){

Scanner sc = new Scanner(System.in);

System.out.print("Enter the no of lines: ");

int n = sc.nextInt();

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();

}

}

}

**RIGHT HALF TRIANGLE PATTERN**

import java.util.\*;

public class Main{

public static void main(String[] args){

Scanner sc = new Scanner(System.in);

int n = sc.nextInt();

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

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

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

}

System.out.println();

}

}

}

**MIRROR RIGHT HALF TRIANGLE**

import java.util.\*;

public class Main{

public static void main(String[] args){

Scanner sc = new Scanner(System.in);

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

int n = sc.nextInt();

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

for(int j=1; j<=n-i; j++){

System.out.print(" ");

}

for(int k=0; k<=i; k++){

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

}

System.out.println();

}

}

}

**REVERSE OF ARRAY**

import java.util.Scanner;

public class Main

{

public static void main(String[] args) {

Scanner sc=new Scanner(System.in);

int n=sc.nextInt();

int[] a=new int[n];

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

a[i]=sc.nextInt();

for(int i=n-1;i>=0;i--)

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

}

}

**HALLOW DIAMOND**

import java.util.Scanner;

public class Main

{

public static void main(String[] args) {

Scanner sc=new Scanner(System.in);

int n=sc.nextInt();

for(int i=1;i<n;i++){

for(int j=1;j<n-i;j++)

System.out.print(" ");

for(int j=1;j<=(2\*i-1);j++){

if(j==1||j==(2\*i-1))

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

else

System.out.print(" ");

}

System.out.println();

}

for(int i=n-2;i>=1;i--){

for(int j=1;j<n-i;j++)

System.out.print(" ");

for(int j=1;j<=(2\*i-1);j++){

if(j==1||j==(2\*i-1))

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

else

System.out.print(" ");

}

System.out.println();

}

}

}

**NUMBER HALF RIGHT TRIANGLE**

import java.util.Scanner;

public class Main

{

public static void main(String[] args) {

Scanner s = new Scanner(System.in);

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

int n=s.nextInt();

int a=1;

for(int i=1;i<=n;i++){

for(int j=1;j<=i;j++){

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

a=a+1;

}

System.out.println();

}

}

}

**SUNNY NUMBER**

import java.util.Scanner;

public class Main

{

public static void main(String[] args) {

Scanner s = new Scanner(System.in);

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

int n =s.nextInt();

if(Math.sqrt(n+1)-Math.floor(Math.sqrt(n+1))==0){

System.out.println("Sunny Number");

}

else{

System.out.println("Not a Sunny Number");

}

}

}

**SUM OF DIAGONAL MATRIX**

import java.util.Scanner;

public class Main{

public static void main(String[] args){

Scanner s = new Scanner(System.in);

System.out.println("Enter the row:");

int n=s.nextInt();

System.out.println("Enter the col:");

int m=s.nextInt();

int sum=0;

int arr [][] = new int[n][m];

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

for(int j=0;j<m;j++){

arr[i][j]=s.nextInt();

}

}

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

for(int j=0;j<arr[0].length;j++){

if(i==j || i + j == arr.length - 1){

sum+=arr[i][j];

}

}

}

System.out.println(sum);

}

}

**SUM OF ARRAY**

import java.util.Scanner;

class Main{

public static void main(String args[]){

Scanner sc=new Scanner(System.in);

System.out.println("Enter the size of array:");

int size=sc.nextInt();

int array[]=new int[size];

int sum=0;

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

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

array[i]=sc.nextInt();

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

sum=sum+array[i];

System.out.println("Sum="+sum);

}

}

**HALLOW SQUARE**

import java.util.Scanner;

public class Main

{

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

System.out.print("Enter the size of square: ");

int sideSize = sc.nextInt();

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

{

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

{

if (i == 0 || i == sideSize - 1 || j == 0 || j == sideSize - 1)

{

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

}

else {

System.out.print(" ");

}

}

System.out.println();

}

}

}

**REVERSE A NUMBER**

import java.util.\*;

public class Main

{

public static void main(String[] args) {

Scanner sc=new Scanner(System.in);

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

int n=sc.nextInt();

int r=0;

while(n!=0){

int rem=n%10;

n=n/10;

r=r\*10+rem;

}

System.out.println("Reverse of a number:"+r);

}

}

**CANDIES PROGRAM**

import java.util.\*;

public class Main{

public static void main(String[] args){

Scanner sc = new Scanner(System.in);

System.out.print("Enter the array length: ");

int n = sc.nextInt();

System.out.print("Enter the array elements: ");

int[] candies = new int[n];

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

candies[i] = sc.nextInt();

}

int extraCandies = 3;

ArrayList<Boolean> res = new ArrayList<Boolean>(candies.length);

int[] arr = new int[candies.length];

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

arr[i] = candies[i] + extraCandies;

}

int max=0;

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

if(candies[i] > max){

max = arr[i];

}

}

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

if(arr[i] >= max){

res.add(true);

}

else{

res.add(false);

}

}

System.out.print(res);

}

}

**RESHAPE MATRIX**

import java.util.\*;

class Main{

public static int[][] main(int mat[][], int c, int r){

int[][] arr = new int[r][c];

int x=0;

int y=0;

if(mat.length \* mat[0].length == r\*c){

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

for(int j=0; j<mat[0].length; j++){

if(y==c){

x++;

y=0;

}

arr[r][c]=mat[i][j];

y++;

}

}

return arr;

}

return mat;

}

}