Day – 5:

Zigzag pattern :

import java.util.\*;

public class Main

{

public static void main(String[] args) {

Scanner in = new Scanner(System.in);

int n=in.nextInt();

int c=1;

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

{

if(i%2==0)

{

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

{

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

}

}

else{

int l=c+n-1;

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

{

System.out.print(l-- +" ");

}

c+=n;

}

System.out.println();

}

}

}

Pascal triangle :

import java.util.\*;

public class Main

{

public static void main(String[] args) {

Scanner in =new Scanner(System.in);

int n=in.nextInt();

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

{

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

{

System.out.print(" ");

}

int x=1;

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

{

System.out.printf("%2d",x);

x=x\*(i-j)/(j+1);

}

System.out.println();

}

}

}

Matrix pattern :8

import java.util.\*;

public class Main

{

public static void main(String[] args) {

Scanner in =new Scanner(System.in);

int n=in.nextInt();

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

{

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

{

int v=Math.min(Math.min(i,j),Math.min(n-i-1,n-1-j))+1;

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

}

System.out.println();

}

}

}

Reverse order of matrix pattern:  
 import java.util.\*;

public class Main

{

public static void main(String[] args) {

Scanner in =new Scanner(System.in);

int n=in.nextInt();

int mid=n/2;

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

{

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

{

int v=Math.min(Math.min(i,j),Math.min(n-i-1,n-j-1))+1;

System.out.print(mid-v+1+" ");

}

System.out.println();

}

}

}

Project pattern in our A first letter:

import java.util.\*;

public class Main

{

public static void main(String[] args) {

Scanner in= new Scanner(System.in);

int n=in.nextInt();

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

{

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

{

if(i==1||j==n||j==1||i==3)

{

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

}

else{

System.out.print(" ");

}

}

System.out.println();

}

}

}

I letter pattern :

import java.util.\*;

public class Main

{

public static void main(String[] args) {

Scanner in= new Scanner(System.in);

int n=in.nextInt();

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

{

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

{

if(i==1||i==n||j==3)

{

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

}

else{

System.out.print(" ");

}

}

System.out.println();

}

}

}

ARRAY

Sum of even index and odd index in array :

import java.util.\*;

public class Main

{

public static void main(String[] args) {

Scanner in = new Scanner(System.in);

int n=in.nextInt();

int[] a= new int[n];

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

{

a[i]=in.nextInt();

}

int sum=0,num=0;

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

{

if(i%2==0)

{

sum+=a[i];

}

else{

num+=a[i];

}

}

System.out.println(sum);

System.out.println(num);

System.out.println(sum-num);

}

}

Count the even and odd in array:

import java.util.\*;

public class Main

{

public static void main(String[] args) {

Scanner in = new Scanner(System.in);

int n=in.nextInt();

int[] a= new int[n];

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

{

a[i]=in.nextInt();

}

int sum=0,num=0;

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

{

if(i%2==0)

{

sum++;

}

else{

num++;

}

}

System.out.println(sum);

System.out.println(num);

}

}

Arrange the even number in first in array:

import java.util.\*;

public class Main

{

public static void main(String[] args) {

Scanner in = new Scanner(System.in);

int n=in.nextInt();

int[] a= new int[n];

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

{

a[i]=in.nextInt();

}

int[] b = new int[100];

int k=0;

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

{

if(a[i]%2==0)

{

b[k++]=a[i];

}

}

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

{

if(a[i]%2!=0)

{

b[k++]=a[i];

}

}

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

{

System.out.print(b[i]);

}

}

}

Find the maximum and minimum in array:

import java.util.\*;

public class Main

{

public static void main(String[] args) {

Scanner in = new Scanner(System.in);

int n=in.nextInt();

int[] a= new int[n];

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

{

a[i]=in.nextInt();

}

int max = 0;

int min = 9999;

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

{

if(a[i]>max)

{

max=a[i];

}

if(a[i]<min)

{

min=a[i];

}

}

System.out.println(max);

System.out.println(min);

}

}

Merge the two array :

import java.util.\*;

public class Main

{

public static void main(String[] args) {

Scanner in = new Scanner(System.in);

int n=in.nextInt();

int[] a= new int[n];

int[] b= new int[n];

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

{

a[i]=in.nextInt();

}

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

{

b[i]=in.nextInt();

}

int[] c = new int[n+n];

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

{

c[i]=a[i];

}

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

{

c[n+i]=b[i];

}

for(int i=0;i<2\*n;i++)

{

System.out.print(c[i]);

}

}

}

Sum of two number in target :

import java.util.\*;

public class Main

{

public static void main(String[] args) {

Scanner in = new Scanner(System.in);

int n=in.nextInt();

int[] a= new int[n];

int[] b= new int[n];

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

{

a[i]=in.nextInt();

}

int k=in.nextInt();

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

{

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

{

if((a[i]+a[j])==k)

{

System.out.print("("+i+","+j+")");

}

}

}

}

}