**1.welcome to programming world:**

import java.util.\*;

public class Main{

public static void main(String[] args) {

for(int i=1;i<=10;i++){

System.out.println("welcome to programming world");

}

}

}

**2. 1 To 15 number print:**

import java.util.\*;

public class Main{

public static void main(String[] args) {

for(int i=1;i<=15;i++){

System.out.println(""+i);

}

}

}

**3.1 to 20(Even number):**import java.util.\*;

public class Main{

public static void main(String[] args) {

for(int i=2;i<=20;i=i+2){

System.out.println(""+i);

}

}

}

**4. 1 to 20 odd numbers:**

import java.util.\*;

public class Main{

public static void main(String[] args) {

for(int i=1;i<=20;i=i+2){

System.out.println(""+i);

}

}

}

**5. 1 to 100 Gap=20:**

import java.util.\*;

public class Main{

public static void main(String[] args) {

for(int i=1;i<=100;i=i+20){

System.out.println(""+i);

}

}

}

**6. 20 to 1:**

import java.util.\*;

public class Main{

public static void main(String[] args) {

int i;

for(i=20;i>=1;i--){

System.out.println(""+i);

}

}

}

**7.1000 to 100 number print:**

import java.util.\*;

public class Main{

public static void main(String[] args) {

int i;

for(i=1000;i>=100;i--){

System.out.println(""+i);

}

}

}

**8.1000 to 100 Gap=20:**

import java.util.\*;

public class Main{

public static void main(String[] args) {

int i;

for(i=1000;i>=100;i=i-2){

System.out.println(""+i);

}

}

}

**9.Sum up to 15 :**

import java.util.\*;

public class Main{

public static void main(String[] args) {

int i,sum=0;

for(i=1000;i>=15;i++){

{

sum=sum+i;

}

System.out.println(""+i);

}

}

}

**10.**

import java.util.Scanner;

public class M

{

  public static void main (String[]args)

  {

    int i,ch,n;

    Scanner sc = new Scanner (System.in);

      System.out.println ("Enter numbers");

      n = sc.nextInt ();

      ch=sc.next().charAt(0);

      for(i=1;i<=n;i++)

      {

          System.out.println(" "+(ch++));

      }

}

}

**11**.**Factor:**  
import java.util.\*;

public class Factor {

    public static void main(String[] args) {

    int n,i;

   Scanner sc=new Scanner(System.in);

  System.out.println("Enter number");

for(i=1;i<=(n/2);i++)

{

  if(n%1==0)

  System.out.println("" +i);

}

    }

}

**12.Pronic Number:**

import java.util.\*;

public class P{

    public static void main(String[] args) {

        int i,n,flag=0;

        Scanner sc=new Scanner(System.in);

        System.out.println("Enter Number : ");

        n=sc.nextInt();

        for(i=1;i<=(n/2);i++){

            if(n==(i\*(i+1))){

                flag=1;

                break;

            }

        }

            if(flag==1){

                System.out.println("pronic number is"+i);

            }

            else{

                System.out.println("not pronic number");

            }

        }

    }

**13.Prime Number:**

import java.util.Scanner;

public class PrimeCheck {

    public static void main(String[] args) {

        int i,n,flag=0;

        Scanner sc = new Scanner(System.in);

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

         n = sc.nextInt();

        flag= 0;

        for (i = 2; i <= n / 2; i++) {

            if (n % i == 0) {

                flag=1;

                break;

            }

        }

        if (flag==0) {

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

        } else {

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

        }

    }

}

**14.Perfect Number:**

import java.util.\*;

public class Perfect {

    public static void main(String[] args) {

        int i,n,sum=0;

        Scanner sc=new Scanner(System.in);

        System.out.println("Enter a number");

        n=sc.nextInt();

        for ( i = 1; i < n; i++) {

            if (n % i == 0) {

                sum += i;

            }

        }

        if (sum == n) {

            System.out.println(n + " is a perfect number");

        } else {

            System.out.println(n + " is not a perfect number");

        }

    }

}

**15.Fibonicc number:**

import java.util.\*;

public class Fibo {

    public static void main(String[] args) {

        int i,f1,f2,f3,n;

        Scanner sc=new Scanner(System.in);

       System.out.println("Enter a Number");

       n=sc.nextInt();

       f1=sc.nextInt();

       f2=sc.nextInt();

       f3=sc.nextInt();

       System.out.print(f1 + " ");

       for ( i = 1; i < n; i++) {

            f3 = f1 + f2;

           System.out.print(f3 + " ");

           f1 = f2;

           f2 = f3;

       }

    }

}

**16.Gcd and Lcm number:**

import java.util.\*;

public class Gcd {

    public static void main(String[] args) {

        int a, b, gcd, lcm;

        Scanner sc = new Scanner(System.in);

        System.out.println("Enter two numbers");

        a = sc.nextInt();

        b = sc.nextInt();

        gcd = 1; // initialize gcd to 1

        for (int i = 1; i <= a && i <= b; i++) {

            if (a % i == 0 && b % i == 0) {

                gcd = i;

            }

        }

        lcm = (a \* b) / gcd;

        System.out.println("GCD: " + gcd);

        System.out.println("LCM: " + lcm);

    }

}

**17.Factorial number:**

import java.util.\*;

public class Factorial{

public static void main(String[] args) {

    int i,n,f1;

    Scanner sc=new Scanner (System.in);

    System.out.println("Enter Number : ");

    n=sc.nextInt();

    for(i=n;i>=n;i--)

    {

        f1= f1 \* i;

        System.out.println("Factorial="+f1);

    }

}

}

**18.Multiplication:**

import java.util.\*;

public class Multi{

public static void main(String[] args) {

    int i,n,f1;

    Scanner sc=new Scanner (System.in);

    System.out.println("Enter Number : ");

    n=sc.nextInt();

    for(i=2;i<=10;i++)

    {

        f1= n\* i;

        System.out.println(n+"\*"+i+"="+f1);

    }

}

}

**19.Multiplication Without using \* operator**

import java.util.\*;

public class Multi{

public static void main(String[] args) {

    int i,n,f1=0;

    Scanner sc=new Scanner (System.in);

    System.out.println("Enter Number : ");

    n=sc.nextInt();

    for(i=1;i<=10;i++)

    {

        f1= f1+n;

        System.out.println(n+"\*"+i+"="+f1);

    }

}

}

**20.Power:**

import java.util.\*;

public class Power{

public static void main(String[] args) {

    int x,i,n,f1=1;

    Scanner sc=new Scanner (System.in);

    System.out.println("Enter a value of x:");

    x=sc.nextInt();

    System.out.println("Enter a number");

    n=sc.nextInt();

    for(i=1;i<=n;i++)

    {

        f1=f1\*x;

    }

    System.out.println(n + " power of " + x + " is " + f1);

}

}

21.

import java.util.\*;

public class Number {

    public static void main(String[] args) {

        int i,n;

        Scanner sc=new Scanner (System.in);

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

        n=sc.nextInt();

        for(i=1;n<=99;i++){

            System.out.println("" +i);

            if(i%5==0){

                System.out.println("");

            }

        }

    }

}

22.

import java.util.\*;

public class Number2 {

    public static void main(String[] args) {

        int i,n;

        Scanner sc=new Scanner (System.in);

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

        n=sc.nextInt();

        for(i=1;n<=100;i++){

            System.out.println("" +i);

            if(i%3==0&& i%7==0){

                System.out.print("n");

            }

        }

    }

}

**Nested For Loop**

**1.**

**package** Demo;

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

**public** **class** Example5 {

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

**int** i,j,n;

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

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

{

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

{

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

}

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

}

}

}

**output:**

Enter a number:5

1

1 2

1 2 3

1 2 3 4

1 2 3 4 5

**2.**

**package** Demo;

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

**public** **class** Example6 {

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

**int** i,j,n;

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

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

{

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

{

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

}

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

}

}

}

**output:**

Enter a number:5

1

2 2

3 3 3

4 4 4 4

5 5 5 5 5

**3.**

**package** Demo;

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

**public** **class** Example7 {

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

**int** i,j,n;

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

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

{

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

{

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

}

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

}

}

}

**output:**

Enter a number:5

\*

\* \*

\* \* \*

\* \* \* \*

\* \* \* \* \*

**4.**

**package** Demo;

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

**public** **class** Example8 {

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

**int** i,j,n;

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

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

{

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

{

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

}

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

}

}

}

**output:**

Enter a number:4

@

@ @

@ @ @

@ @ @ @

**5.**

**package** Demo;

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

**public** **class** Example9 {

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

**int** i,j,n,k=1;

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

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

{

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

{

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

k++;

}

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

}

}

}

**output:**

Enter a number:4

1

2 3

4 5 6

7 8 9 10

**6.**

**package** Demo;

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

**public** **class** Example13 {

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

**int** i,j,n,k=1;

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

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

{

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

{

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

k=k+2;

}

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

}

}

}

**output:**

Enter a number:5

1

3 5

7 9 11

13 15 17 19

21 23 25 27 29

**7.**

**package** Demo;

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

**public** **class** Example10 {

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

**int** i,j,n,k=1,ch = 64;

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

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

{

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

{

System.***out***.print((**char**)(ch+j) +" ");

}

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

}

}

}

**output:**

Enter a number:5

A

A B

A B C

A B C D

A B C D E

**8.**

**package** Demo;

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

**public** **class** Example10 {

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

**int** i,j,n,k=1,ch = 64;

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

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

{

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

{

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

}

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

}

}

}

**output:**

Enter a number:5

A

B B

C C C

D D D D

E E E E E

**9.**

**package** Demo;

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

**public** **class** Example10 {

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

**int** i,j,n,ch=96;

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

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

{

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

{

System.***out***.print((**char**)(ch+j) +" ");

}

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

}

}

}

**output:**

Enter a number:5

a

a b

a b c

a b c d

a b c d e

**10.**

**package** Demo;

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

**public** **class** Example10 {

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

**int** i,j,n,ch=96;

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

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

{

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

{

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

}

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

}

}

}

**output:**

Enter a number:5

a

b b

c c c

d d d d

e e e e e

**11.**

**package** Demo;

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

**public** **class** Example10 {

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

**int** i,j,n;

**char** ch = 'A';

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

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

{

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

{

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

ch++;

}

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

}

}

}

**output:**

Enter a number:4

A

B C

D E F

G H I J

**12.**

**package** Demo;

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

**public** **class** Example10 {

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

**int** i,j,n;

**char** ch='a';

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

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

{

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

{

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

ch++;

}

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

}

}

}

**output:**

Enter a number:5

a

b c

d e f

g h i j

k l m n o

**13.**

**package** Demo;

**import** java.util.Scanner;

**public** **class** Pattern {

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

**int** i, j, n;

**int** ch = 64, c=96;

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

System.***out***.println("Enter a number:");

n = sc.nextInt();

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

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

System.***out***.print(" " + (**char**)(ch + j) + (**char**)(c + j));

}

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

}

}

}

**output:**

Enter a number:5

Aa

Aa Bb

Aa Bb Cc

Aa Bb Cc Dd

Aa Bb Cc Dd Ee

**14.**

**package** Demo;

**import** java.util.Scanner;

**public** **class** Pattern {

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

**int** i, j, n;

**int** ch = 64, c=96;

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

System.***out***.println("Enter a number:");

n = sc.nextInt();

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

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

System.***out***.print(" " + (**char**)(ch + i) + (**char**)(c + i));

}

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

}

}

}

**output:**

Enter a number:5

Aa

Bb Bb

Cc Cc Cc

Dd Dd Dd Dd

Ee Ee Ee Ee Ee

**15.**

**package** Demo;

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

**public** **class** Example11 {

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

**int** i,j,n;

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

**for**(i=n;i>=1;i--)

{

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

{

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

}

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

}

}

}

**output:**

Enter a number:5

1 2 3 4 5

1 2 3 4

1 2 3

1 2

1

**16.**

**package** Demo;

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

**public** **class** Example12 {

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

**int** i,j,n;

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

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

{

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

{

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

}

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

}

}

}

**output:**

Enter a number:5

1 2 3 4 5

1 2 3 4 5

1 2 3 4 5

1 2 3 4 5

1 2 3 4 5

**17.**

**package** Demo;

**import** java.util.Scanner;

**public** **class** Pattern3 {

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

**int** i, j, n;

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

System.***out***.println("Enter a number:");

n = sc.nextInt();

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

{

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

{

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

}

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

}

**for**(i = n-1; i >= 1; i--)

{

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

{

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

}

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

}

}

}

**output:**

Enter a number:5

1

1 2

1 2 3

1 2 3 4

1 2 3 4 5

1 2 3 4

1 2 3

1 2

1

**18.**

**package** Demo;

**import** java.util.Scanner;

**public** **class** Pattern2 {

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

**int** i, j, n;

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

System.***out***.println("Enter a number:");

n = sc.nextInt();

**for**(i = n; i >= 1; i--) {

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

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

}

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

}

**for**(i = 2; i <= n; i++) {

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

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

}

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

}

}

}

**output:**

Enter a number:4

1 2 3 4

1 2 3

1 2

1

1 2

1 2 3

1 2 3 4

**19.**

**package** Demo;

**import** java.util.Scanner;

**public** **class** Pattern4 {

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

**int** i,j,n;

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

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

{

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

{

**if**(j%2==0)

{

System.***out***.print("0 ");

}

**else** {

System.***out***.print("1 ");

}

}

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

}

}

}

**output:**

Enter a number:4

1

1 0

1 0 1

1 0 1 0

**20.**

**package** Demo;

**import** java.util.Scanner;

**public** **class** Pattern4 {

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

**int** i,j,n;

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

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

{

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

{

**if**(i%2==0)

{

System.***out***.print("0 ");

}

**else** {

System.***out***.print("1 ");

}

}

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

}

}

}

**output:**

Enter a number:4

1

0 0

1 1 1

0 0 0 0

**21.**

**package** Demo;

**import** java.util.Scanner;

**public** **class** Pattern5 {

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

**int** i,j,n;

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

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

{

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

{

**if**((i+j)%2==0)

{

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

}

**else** {

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

}

}

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

}

}

}

**output:**

Enter a number:5

\* # \* # \*

# \* # \* #

\* # \* # \*

# \* # \* #

\* # \* # \*

**22.**

**package** Demo;

**import** java.util.Scanner;

**public** **class** Pattern6 {

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

**int** i,j,n,k;

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

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

{

**for**(k=n;k>i;k--)

{

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

}

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

{

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

}

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

}

}

}

**output:**

Enter a number:4

\*

\* \*

\* \* \*

\* \* \* \*

**23.**

**package** Demo;

**import** java.util.Scanner;

**public** **class** Pattern6 {

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

**int** i, j, n, k;

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

System.***out***.println("Enter a number:");

n = sc.nextInt();

**for** (i = n; i >= 1; i--) {

**for** (k = n; k > i; k--) {

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

}

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

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

}

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

}

}

}

**output:**

Enter a number:4

\* \* \* \*

\* \* \*

\* \*

\*

**24.**

**package** Demo;

**import** java.util.Scanner;

**public** **class** Pattern7 {

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

**int** i, j, n,k;

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

System.***out***.println("Enter a number:");

n = sc.nextInt();

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

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

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

}

**for** (k = 1; k <= i; k++) {

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

}

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

}

**for** (i = n - 1; i >= 1; i--) {

**for** (k = 1; k <= n - i; k++) {

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

}

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

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

}

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

}

}

}

**output:**

Enter a number:4

\*

\* \*

\* \* \*

\* \* \* \*

\* \* \*

\* \*

\*

**25.**

**package** Demo;

**import** java.util.Scanner;

**public** **class** Pattern8 {

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

**int** i, j, n,k;

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

System.***out***.println("Enter a number:");

n = sc.nextInt();

**for** (i = n ; i >= 1; i--) {

**for** (k = 1; k <= n - i; k++) {

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

}

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

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

}

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

}

**for** (i = 2; i <= n; i++) {

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

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

}

**for** (k = 1; k <= i; k++) {

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

}

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

}

}

}

**output:**

Enter a number:4

\* \* \* \*

\* \* \*

\* \*

\*

\* \*

\* \* \*

\* \* \* \*

**26.**

**package** Demo;

**import** java.util.Scanner;

**public** **class** Pattern6 {

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

**int** i,j,n,k;

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

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

{

**for**(k=n;k>i;k--)

{

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

}

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

{

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

}

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

}

}

}

**output:**

Enter a number:4

\*

\*\*

\*\*\*

\*\*\*\*

**27.**

**package** Demo;

**import** java.util.Scanner;

**public** **class** Pattern9 {

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

**int** i,j,n,k;

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

**for**(i=n;i>=1;i--)

{

**for**(k=n;k>i;k--)

{

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

}

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

{

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

}

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

}

}

}

**output:**

Enter a number:4

\*\*\*\*

\*\*\*

\*\*

\*

**28.**

**package** Demo;

**import** java.util.Scanner;

**public** **class** Pattern10 {

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

**int** i,j,n,k;

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

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

{

**for**(k=n;k>i;k--)

{

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

}

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

{

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

}

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

}

**for**(i=n-1;i>=1;i--)

{

**for**(k=n;k>i;k--)

{

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

}

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

{

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

}

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

}

}

}

**output:**

Enter a number:4

\*

\*\*

\*\*\*

\*\*\*\*

\*\*\*

\*\*

\*

**29.**

**package** Demo;

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

**public** **class** Pattern21 {

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

**int** i,j,n;

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

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

n = sc.nextInt();

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

{

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

{

**if** ((i == n / 2) || (j == n / 2))

{

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

} **else**

{

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

}

}

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

}

}

}

**output:**

Enter number:5

\*

\*

\* \* \* \* \*

\*

\*

**30.**

**package** Demo;

**import** java.util.Scanner;

**public** **class** Pattern20 {

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

**int** n, i, j;

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

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

n = sc.nextInt();

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

{

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

{

**if** ((i == 1 && j == 1) || (i == 1 && j == n + 1) || (i == n && j == 1) || (i == n && j == n + 1))

{

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

} **else** **if** (j == 1 || j == n + 1)

{

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

} **else** **if** (i == 1 || i == n)

{

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

} **else** {

System.***out***.print((j - 1) + " ");

}

}

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

}

}

}

**output:**

Enter number:6

\* \* \* \* \*

\* 1 2 3 4 5 \*

\* 1 2 3 4 5 \*

\* 1 2 3 4 5 \*

\* 1 2 3 4 5 \*

\* \* \* \* \*

**31.**

**package** Demo;

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

**public** **class** Pattern12 {

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

**int** i, j, n;

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

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

n = sc.nextInt();

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

{

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

{

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

}

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

}

}

}

**output:**

Enter a number:5

\*\*\*\*\*

\*\*\*\*\*

\*\*\*\*\*

\*\*\*\*\*

\*\*\*\*\*

**32.**

**package** Demo;

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

**public** **class** Pattern12 {

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

**int** i, j, n;

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

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

n = sc.nextInt();

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

{

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

{

**if**(i>=2 && j<=i-1)

{

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

}

**else**

{

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

}

}

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

}

}

}

**output:**

Enter a number:5

\*

\*

\*

\*

\*

**33.**

**package** Demo;

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

**public** **class** Pattern13 {

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

**int** i, j, n;

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

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

n = sc.nextInt();

**for**(i=n;i>=1;i--)

{

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

{

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

}

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

}

}

}

**output:**

Enter a number:5

\* \* \* \* \*

\* \* \* \*

\* \* \*

\* \*

\*

**34.**

**package** Demo;

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

**public** **class** Pattern13 {

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

**int** i, j, n;

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

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

n = sc.nextInt();

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

{

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

{

**if**(i+j == n+1)

{

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

}

**else**

{

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

}

}

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

}

}

}

**output:**

Enter a number:5

\*

\*

\*

\*

\*

**35.**

**package** Demo;

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

**public** **class** Pattern14 {

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

**int** i, j, n;

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

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

n = sc.nextInt();

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

{

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

{

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

}

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

}

}

}

**output:**

Enter a number:5

\*

\* \*

\* \* \*

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**36.**

**package** Demo;

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

**public** **class** Pattern16{

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

**int** n = 5;

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

{

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

{

**if** (i == j)

{

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

} **else** {

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

}

}

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

}

}

}

**output:**

\* \* \* \*

\* \* \* \*

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**37.**

**package** Demo;

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

**public** **class** Pattern19 {

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

**int** i,j,n;

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

System.***out***.println("Enter no:");

n=sc.nextInt();

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

{

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

{

**if**(i+j<=n+1)

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

**else**

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

}

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

{

**if**(i+j<=n+1)

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

**else**

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

}

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

}

}

}

**output:**

Enter no:5

\* \* \* \* \* \* \* \* \* \*

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**38.**

**package** Demo;

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

**public** **class** Pattern18 {

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

**int** i,j,n;

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

System.***out***.println("enter no");

n=sc.nextInt();

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

{

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

{

**if**(i+j<=n+1)

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

**else**

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

}

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

{

**if**(i+j<=n+1)

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

**else**

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

}

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

}

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

{

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

{

**if**(i+j<=n+1)

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

**else**

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

}

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

{

**if**(i+j<=n+1)

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

**else**

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

}

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

}

}

}

**output:**

Enter no:6

\* \* \* \* \* \* \* \* \* \* \* \*

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**39.**

**package** Demo;

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

**public** **class** Pattern11 {

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

**int** i, j, n;

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

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

n = sc.nextInt();

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

{

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

{

**if** (i >= j)

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

**else**

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

}

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

{

**if** (i + j >= n + 1)

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

**else**

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

}

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

}

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

{

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

{

**if** (i + j <= n + 1)

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

**else**

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

}

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

{

**if** (i <= j)

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

**else**

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

}

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

}

}

}

**output:**

Enter a number:6

\* \*

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**40.**

**package** Demo;

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

**public** **class** Pattern15

{

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

{

**for**(**int** i=1; i<=10; i++)

{

**for**(**int** j=1; j<=10-i; j++)

{

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

}

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

{

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

}

**for**(**int** j=1; j<=10-i; j++)

{

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

}

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

}

**for**(**int** i=1; i<=10; i++)

{

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

{

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

}

**for**(**int** k=1; k<=20-2\*i; k++)

{

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

}

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

{

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

}

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

}

}

}

**output:**

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\*\*\*\*\*\*\*\* \*\*\*\*\*\*\*\*

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**41.**

**package** Demo;

**import** java.util.Scanner;

**public** **class** Pattern27 {

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

**int** i,j,n;

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

System.***out***.println("Enter a number:");

n = sc.nextInt();

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

{

**for** ( j = 0; j <= n / 2; j++)

{

**if** ((j == 0 || j == n / 2) && i != 0 ||

i == 0 && j != n / 2 || i == n / 2)

{

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

} **else** {

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

}

}

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

}

}

}

**output:**

Enter a number:6

\*\*\*

\* \*

\* \*

\*\*\*\*

\* \*

\* \*

\* \*

**42.**

**package** Demo;

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

**public** **class** Pattern28 {

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

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

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

**int** rows = sc.nextInt();

**for** (**int** i=1; i<= rows ; i++)

{

**for** (**int** j = i; j < rows ; j++) {

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

}

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

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

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

}

**else** {

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

}

}

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

}

}

}

**output:**

Enter the number of rows: 5

\*

\* \*

\* \*

\* \*

\*\*\*\*\*\*\*\*\*

**43.**

**package** Demo;

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

**public** **class** Pattern29 {

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

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

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

**int** rows = sc.nextInt();

**for** (**int** i=rows; i>= 1 ; i--)

{

**for** (**int** j = i; j < rows ; j++) {

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

}

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

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

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

}

**else** {

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

}

}

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

}

}

}

**output:**

Enter the number of rows: 5

\*\*\*\*\*\*\*\*\*

\* \*

\* \*

\* \*

\*

**44.**

**package** Demo;

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

**public** **class** Pattern30 {

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

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

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

**int** rows = sc.nextInt();

**for** (**int** i=1; i<= rows ; i++) { **for** (**int** j = rows; j > i ; j--) {

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

}

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

**for** (**int** k = 1; k < 2\*(i -1) ;k++) { System.***out***.print(" "); } **if**( i==1) { System.***out***.println(""); } **else** { System.***out***.println("\*"); } } **for** (**int** i=rows-1; i>= 1 ; i--)

{

**for** (**int** j = rows; j > i ; j--) {

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

}

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

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

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

}

**if**( i==1)

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

**else**

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

}

}

}

**output:**

Enter the number of rows: 6

\*

\* \*

\* \*

\* \*

\* \*

\* \*

\* \*

\* \*

\* \*

\* \*

\*

**45.**

**package** Demo;

**public** **class** Pattern31 {

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

**int** n = 5;

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

**int** number = 1;

System.***out***.printf("%" + (n - i) \* 2 + "s", "");

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

System.***out***.printf("%4d", number);

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

}

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

}

}

}

**output:**

1

1 1

1 2 1

1 3 3 1

1 4 6 4 1

**46.**

**package** Demo;

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

**public** **class** Pattern32 {

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

**for** (**int** i = 1; i <= 4; i++)

{

**int** n = 4;

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

{

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

}

**for** (**int** k = i; k >= 1; k--)

{

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

}

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

{

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

}

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

}

**for** (**int** i = 3; i >= 1; i--)

{

**int** n = 3;

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

{

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

}

**for** (**int** k = i; k >= 1; k--)

{

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

}

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

{

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

}

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

}

}

}

**output:**

1

212

32123

4321234

32123

212

1

**47.**

**package** Demo;

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

**public** **class** Pattern33 {

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

**int** n = 5;

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

{

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

{

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

}

**for** (**int** k = i; k <= n; k++)

{

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

}

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

}

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

{

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

{

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

}

**for** (**int** k = i; k <= n; k++)

{

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

}

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

}

}

}

**output:**

1 2 3 4 5

2 3 4 5

3 4 5

4 5

5

4 5

3 4 5

2 3 4 5

1 2 3 4 5

**48.**

**package** Demo;

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

**public** **class** Pattern34 {

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

**int** rows;

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

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

rows = sc.nextInt();

**for** (**int** i = 1; i <= rows; i++)

{

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

{

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

}

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

}

}

}

**output:**

Enter the number of rows: 5

1

2 1

3 2 1

4 3 2 1

5 4 3 2 1

**49.**

**package** Demo;

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

**public** **class** Pattern35 {

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

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

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

**int** rows = sc.nextInt();

**for** (**int** i= 1; i<= rows ; i++)

{

**for** (**int** j=i; j <rows ;j++)

{

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

}

**for** (**int** k=1; k<=i;k++)

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

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

}

**for** (**int** i=rows; i>=1; i--)

{

**for**(**int** j=i; j<=rows;j++)

{

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

}

**for**(**int** k=1; k<i ;k++)

{

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

}

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

}

}

}

**output:**

Enter the number of rows: 5

\*

\*\*

\*\*\*

\*\*\*\*

\*\*\*\*\*

\*\*\*\*

\*\*\*

\*\*

\*

**50.**

**package** Demo;

**import** java.util.Scanner;

**public** **class** Pattern36 {

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

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

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

**int** rows = sc.nextInt();

**for** (**int** i = 1; i <= rows; i++)

{

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

{

**if**(j%2 == 0)

{

System.***out***.print(0);

}

**else**

{

System.***out***.print(1);

}

}

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

}

}

}

**output:**

Enter the number of rows: 5

1

10

101

1010

10101

**51.Accept n num from user & print prime no upto n.**

**package** Demo;

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

**public** **class** Pattern22 {

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

**int** i, j, flag, n, range;

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

System.***out***.println("Enter range:");

range = sc.nextInt();

System.***out***.println("Prime numbers up to " + range + " are:");

**for** (j = 2; j <= range; j++)

{

n = j;

flag = 0;

**for** (i = 2; i <= n / 2; i++)

{

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

{

flag = 1;

**break**;

}

}

**if** (flag == 0)

{

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

}

}

}

}

**output:**

Enter range:20

Prime numbers up to 20 are:

2

3

5

7

11

13

17

19

**52.Accept n num from user & print perfect no upto n.**

**package** Demo;

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

**public** **class** Pattern23 {

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

**int** i, j, sum, range, n;

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

System.***out***.println("Enter range:");

range = sc.nextInt();

System.***out***.println("Perfect numbers up to " + range + " are:");

**for** (j = 1; j <= range; j++) {

n = j;

sum = 0;

**for** (i = 1; i <= n / 2; i++)

{

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

{

sum = sum + i;

}

}

**if** (sum == j && j != 0) {

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

}

}

}

}

**output:**

Enter range:50

Perfect numbers up to 50 are:

6

28

**53.Accept n num from user & print pronic no upto n.**

**package** Demo;

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

**public** **class** Pattern24 {

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

**int** i, j, flag=0, n, range;

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

System.***out***.println("Enter range:");

range = sc.nextInt();

System.***out***.println("Pronic numbers up to " + range + " are:");

**for** (j = 1; j <= range; j++) {

n = j;

flag = 0;

**for** (i = 1; i <= n / 2; i++) {

**if** (n == (i\*(i+1))) {

flag = 1;

**break**;

}

}

**if** (flag == 1) {

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

}

}

}

}

**output:**

Enter range:20

Pronic numbers up to 20 are:

2

6

12

20

**54.**

**package** Demo;

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

**public** **class** Pattern25 {

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

**int** i,j,n;

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

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

n = sc.nextInt();

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

{

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

{

**if** ((i == n / 2) || (j == n / 2))

{

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

} **else**

{

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

}

}

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

}

}

}

**output:**

Enter number:5

+

+

+ + + + +

+

+

**55.**

**package** Demo;

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

**public** **class** Pattern26 {

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

**int** i, j, n;

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

System.***out***.println("Enter a number:");

n = sc.nextInt();

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

{

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

{

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

{

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

} **else** {

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

}

}

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

}

}

}

**output:**

Enter a number:4

\* \* \* \*

\* \*

\* \*

\* \* \* \*

**56.**

**package** Demo;

**import** java.util.Scanner;

**public** **class** Pattern37 {

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

**int** i, j,sum=0,f1, n;

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

System.***out***.println("Enter a number:");

n = sc.nextInt();

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

{

f1=1;

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

{

f1=f1\*j;

}

sum=sum+f1;

}

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

}

}

**output:**

Enter a number:2

sum is 3

**57.**

**package** Demo;

**import** java.util.Scanner;

**public** **class** Pattern38 {

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

**int** i, j,sum=0,f1,n,x;

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

System.***out***.println("Enter value of x:");

x = sc.nextInt();

System.***out***.println("Enter value of n:");

n = sc.nextInt();

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

{

f1=1;

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

{

f1=f1\*x;

}

sum=sum+f1;

}

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

}

}

**output:**

Enter value of x:

3

Enter value of n:

2

sum is 12

**58.**

**package** Demo;

**import** java.util.Scanner;

**public** **class** Pattern39 {

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

**int** i, j,sum=0,f1,n;

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

System.***out***.println("Enter value of n:");

n = sc.nextInt();

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

{

f1=1;

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

{

f1=f1\*i;

}

sum=sum+f1;

}

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

}

}

**output:**

Enter value of n:

4

sum is 288

**59.**

**package** Demo;

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

**public** **class** Pattern40 {

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

**int** i, j, sum = 0, f1, f2, n, x;

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

System.***out***.println("Enter value of x:");

x = sc.nextInt();

System.***out***.println("Enter value of n:");

n = sc.nextInt();

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

{

f1 = 1;

f2 = 1;

**for** (j = i; j > i; j--)

{

f1 = f1 \* j;

}

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

{

f2 = f2 \* x;

}

sum = sum + (f2 / f1);

}

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

}

}

**output:**

Enter value of x:

3

Enter value of n:

5

sum is 363

**Nested For Loop**

**1.**

**package** Demo;

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

**public** **class** Example5 {

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

**int** i,j,n;

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

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

{

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

{

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

}

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

}

}

}

**output:**

Enter a number:5

1

1 2

1 2 3

1 2 3 4

1 2 3 4 5

**2.**

**package** Demo;

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

**public** **class** Example6 {

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

**int** i,j,n;

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

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

{

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

{

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

}

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

}

}

}

**output:**

Enter a number:5

1

2 2

3 3 3

4 4 4 4

5 5 5 5 5

**3.**

**package** Demo;

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

**public** **class** Example7 {

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

**int** i,j,n;

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

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

{

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

{

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

}

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

}

}

}

**output:**

Enter a number:5

\*

\* \*

\* \* \*

\* \* \* \*

\* \* \* \* \*

**4.**

**package** Demo;

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

**public** **class** Example8 {

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

**int** i,j,n;

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

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

{

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

{

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

}

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

}

}

}

**output:**

Enter a number:4

@

@ @

@ @ @

@ @ @ @

**5.**

**package** Demo;

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

**public** **class** Example9 {

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

**int** i,j,n,k=1;

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

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

{

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

{

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

k++;

}

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

}

}

}

**output:**

Enter a number:4

1

2 3

4 5 6

7 8 9 10

**6.**

**package** Demo;

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

**public** **class** Example13 {

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

**int** i,j,n,k=1;

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

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

{

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

{

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

k=k+2;

}

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

}

}

}

**output:**

Enter a number:5

1

3 5

7 9 11

13 15 17 19

21 23 25 27 29

**7.**

**package** Demo;

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

**public** **class** Example10 {

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

**int** i,j,n,k=1,ch = 64;

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

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

{

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

{

System.***out***.print((**char**)(ch+j) +" ");

}

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

}

}

}

**output:**

Enter a number:5

A

A B

A B C

A B C D

A B C D E

**8.**

**package** Demo;

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

**public** **class** Example10 {

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

**int** i,j,n,k=1,ch = 64;

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

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

{

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

{

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

}

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

}

}

}

**output:**

Enter a number:5

A

B B

C C C

D D D D

E E E E E

**9.**

**package** Demo;

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

**public** **class** Example10 {

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

**int** i,j,n,ch=96;

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

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

{

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

{

System.***out***.print((**char**)(ch+j) +" ");

}

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

}

}

}

**output:**

Enter a number:5

a

a b

a b c

a b c d

a b c d e

**10.**

**package** Demo;

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

**public** **class** Example10 {

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

**int** i,j,n,ch=96;

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

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

{

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

{

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

}

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

}

}

}

**output:**

Enter a number:5

a

b b

c c c

d d d d

e e e e e

**11.**

**package** Demo;

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

**public** **class** Example10 {

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

**int** i,j,n;

**char** ch = 'A';

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

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

{

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

{

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

ch++;

}

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

}

}

}

**output:**

Enter a number:4

A

B C

D E F

G H I J

**12.**

**package** Demo;

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

**public** **class** Example10 {

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

**int** i,j,n;

**char** ch='a';

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

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

{

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

{

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

ch++;

}

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

}

}

}

**output:**

Enter a number:5

a

b c

d e f

g h i j

k l m n o

**13.**

**package** Demo;

**import** java.util.Scanner;

**public** **class** Pattern {

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

**int** i, j, n;

**int** ch = 64, c=96;

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

System.***out***.println("Enter a number:");

n = sc.nextInt();

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

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

System.***out***.print(" " + (**char**)(ch + j) + (**char**)(c + j));

}

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

}

}

}

**output:**

Enter a number:5

Aa

Aa Bb

Aa Bb Cc

Aa Bb Cc Dd

Aa Bb Cc Dd Ee

**14.**

**package** Demo;

**import** java.util.Scanner;

**public** **class** Pattern {

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

**int** i, j, n;

**int** ch = 64, c=96;

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

System.***out***.println("Enter a number:");

n = sc.nextInt();

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

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

System.***out***.print(" " + (**char**)(ch + i) + (**char**)(c + i));

}

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

}

}

}

**output:**

Enter a number:5

Aa

Bb Bb

Cc Cc Cc

Dd Dd Dd Dd

Ee Ee Ee Ee Ee

**15.**

**package** Demo;

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

**public** **class** Example11 {

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

**int** i,j,n;

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

**for**(i=n;i>=1;i--)

{

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

{

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

}

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

}

}

}

**output:**

Enter a number:5

1 2 3 4 5

1 2 3 4

1 2 3

1 2

1

**16.**

**package** Demo;

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

**public** **class** Example12 {

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

**int** i,j,n;

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

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

{

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

{

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

}

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

}

}

}

**output:**

Enter a number:5

1 2 3 4 5

1 2 3 4 5

1 2 3 4 5

1 2 3 4 5

1 2 3 4 5

**17.**

**package** Demo;

**import** java.util.Scanner;

**public** **class** Pattern3 {

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

**int** i, j, n;

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

System.***out***.println("Enter a number:");

n = sc.nextInt();

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

{

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

{

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

}

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

}

**for**(i = n-1; i >= 1; i--)

{

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

{

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

}

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

}

}

}

**output:**

Enter a number:5

1

1 2

1 2 3

1 2 3 4

1 2 3 4 5

1 2 3 4

1 2 3

1 2

1

**18.**

**package** Demo;

**import** java.util.Scanner;

**public** **class** Pattern2 {

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

**int** i, j, n;

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

System.***out***.println("Enter a number:");

n = sc.nextInt();

**for**(i = n; i >= 1; i--) {

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

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

}

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

}

**for**(i = 2; i <= n; i++) {

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

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

}

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

}

}

}

**output:**

Enter a number:4

1 2 3 4

1 2 3

1 2

1

1 2

1 2 3

1 2 3 4

**19.**

**package** Demo;

**import** java.util.Scanner;

**public** **class** Pattern4 {

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

**int** i,j,n;

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

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

{

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

{

**if**(j%2==0)

{

System.***out***.print("0 ");

}

**else** {

System.***out***.print("1 ");

}

}

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

}

}

}

**output:**

Enter a number:4

1

1 0

1 0 1

1 0 1 0

**20.**

**package** Demo;

**import** java.util.Scanner;

**public** **class** Pattern4 {

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

**int** i,j,n;

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

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

{

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

{

**if**(i%2==0)

{

System.***out***.print("0 ");

}

**else** {

System.***out***.print("1 ");

}

}

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

}

}

}

**output:**

Enter a number:4

1

0 0

1 1 1

0 0 0 0

**21.**

**package** Demo;

**import** java.util.Scanner;

**public** **class** Pattern5 {

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

**int** i,j,n;

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

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

{

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

{

**if**((i+j)%2==0)

{

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

}

**else** {

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

}

}

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

}

}

}

**output:**

Enter a number:5

\* # \* # \*

# \* # \* #

\* # \* # \*

# \* # \* #

\* # \* # \*

**22.**

**package** Demo;

**import** java.util.Scanner;

**public** **class** Pattern6 {

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

**int** i,j,n,k;

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

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

{

**for**(k=n;k>i;k--)

{

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

}

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

{

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

}

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

}

}

}

**output:**

Enter a number:4

\*

\* \*

\* \* \*

\* \* \* \*

**23.**

**package** Demo;

**import** java.util.Scanner;

**public** **class** Pattern6 {

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

**int** i, j, n, k;

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

System.***out***.println("Enter a number:");

n = sc.nextInt();

**for** (i = n; i >= 1; i--) {

**for** (k = n; k > i; k--) {

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

}

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

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

}

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

}

}

}

**output:**

Enter a number:4

\* \* \* \*

\* \* \*

\* \*

\*

**24.**

**package** Demo;

**import** java.util.Scanner;

**public** **class** Pattern7 {

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

**int** i, j, n,k;

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

System.***out***.println("Enter a number:");

n = sc.nextInt();

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

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

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

}

**for** (k = 1; k <= i; k++) {

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

}

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

}

**for** (i = n - 1; i >= 1; i--) {

**for** (k = 1; k <= n - i; k++) {

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

}

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

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

}

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

}

}

}

**output:**

Enter a number:4

\*

\* \*

\* \* \*

\* \* \* \*

\* \* \*

\* \*

\*

**25.**

**package** Demo;

**import** java.util.Scanner;

**public** **class** Pattern8 {

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

**int** i, j, n,k;

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

System.***out***.println("Enter a number:");

n = sc.nextInt();

**for** (i = n ; i >= 1; i--) {

**for** (k = 1; k <= n - i; k++) {

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

}

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

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

}

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

}

**for** (i = 2; i <= n; i++) {

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

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

}

**for** (k = 1; k <= i; k++) {

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

}

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

}

}

}

**output:**

Enter a number:4

\* \* \* \*

\* \* \*

\* \*

\*

\* \*

\* \* \*

\* \* \* \*

**26.**

**package** Demo;

**import** java.util.Scanner;

**public** **class** Pattern6 {

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

**int** i,j,n,k;

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

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

{

**for**(k=n;k>i;k--)

{

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

}

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

{

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

}

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

}

}

}

**output:**

Enter a number:4

\*

\*\*

\*\*\*

\*\*\*\*

**27.**

**package** Demo;

**import** java.util.Scanner;

**public** **class** Pattern9 {

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

**int** i,j,n,k;

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

**for**(i=n;i>=1;i--)

{

**for**(k=n;k>i;k--)

{

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

}

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

{

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

}

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

}

}

}

**output:**

Enter a number:4

\*\*\*\*

\*\*\*

\*\*

\*

**28.**

**package** Demo;

**import** java.util.Scanner;

**public** **class** Pattern10 {

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

**int** i,j,n,k;

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

System.***out***.println("Enter a number:");

n=sc.nextInt();

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

{

**for**(k=n;k>i;k--)

{

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

}

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

{

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

}

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

}

**for**(i=n-1;i>=1;i--)

{

**for**(k=n;k>i;k--)

{

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

}

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

{

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

}

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

}

}

}

**output:**

Enter a number:4

\*

\*\*

\*\*\*

\*\*\*\*

\*\*\*

\*\*

\*

**29.**

**package** Demo;

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

**public** **class** Pattern21 {

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

**int** i,j,n;

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

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

n = sc.nextInt();

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

{

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

{

**if** ((i == n / 2) || (j == n / 2))

{

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

} **else**

{

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

}

}

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

}

}

}

**output:**

Enter number:5

\*

\*

\* \* \* \* \*

\*

\*

**30.**

**package** Demo;

**import** java.util.Scanner;

**public** **class** Pattern20 {

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

**int** n, i, j;

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

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

n = sc.nextInt();

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

{

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

{

**if** ((i == 1 && j == 1) || (i == 1 && j == n + 1) || (i == n && j == 1) || (i == n && j == n + 1))

{

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

} **else** **if** (j == 1 || j == n + 1)

{

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

} **else** **if** (i == 1 || i == n)

{

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

} **else** {

System.***out***.print((j - 1) + " ");

}

}

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

}

}

}

**output:**

Enter number:6

\* \* \* \* \*

\* 1 2 3 4 5 \*

\* 1 2 3 4 5 \*

\* 1 2 3 4 5 \*

\* 1 2 3 4 5 \*

\* \* \* \* \*

**31.**

**package** Demo;

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

**public** **class** Pattern12 {

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

**int** i, j, n;

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

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

n = sc.nextInt();

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

{

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

{

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

}

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

}

}

}

**output:**

Enter a number:5

\*\*\*\*\*

\*\*\*\*\*

\*\*\*\*\*

\*\*\*\*\*

\*\*\*\*\*

**32.**

**package** Demo;

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

**public** **class** Pattern12 {

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

**int** i, j, n;

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

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

n = sc.nextInt();

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

{

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

{

**if**(i>=2 && j<=i-1)

{

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

}

**else**

{

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

}

}

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

}

}

}

**output:**

Enter a number:5

\*

\*

\*

\*

\*

**33.**

**package** Demo;

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

**public** **class** Pattern13 {

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

**int** i, j, n;

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

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

n = sc.nextInt();

**for**(i=n;i>=1;i--)

{

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

{

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

}

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

}

}

}

**output:**

Enter a number:5

\* \* \* \* \*

\* \* \* \*

\* \* \*

\* \*

\*

**34.**

**package** Demo;

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

**public** **class** Pattern13 {

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

**int** i, j, n;

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

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

n = sc.nextInt();

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

{

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

{

**if**(i+j == n+1)

{

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

}

**else**

{

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

}

}

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

}

}

}

**output:**

Enter a number:5

\*

\*

\*

\*

\*

**35.**

**package** Demo;

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

**public** **class** Pattern14 {

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

**int** i, j, n;

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

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

n = sc.nextInt();

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

{

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

{

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

}

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

}

}

}

**output:**

Enter a number:5

\*

\* \*

\* \* \*

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**36.**

**package** Demo;

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

**public** **class** Pattern16{

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

**int** n = 5;

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

{

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

{

**if** (i == j)

{

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

} **else** {

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

}

}

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

}

}

}

**output:**

\* \* \* \*

\* \* \* \*

\* \* \* \*

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**37.**

**package** Demo;

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

**public** **class** Pattern19 {

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

**int** i,j,n;

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

System.***out***.println("Enter no:");

n=sc.nextInt();

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

{

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

{

**if**(i+j<=n+1)

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

**else**

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

}

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

{

**if**(i+j<=n+1)

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

**else**

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

}

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

}

}

}

**output:**

Enter no:5

\* \* \* \* \* \* \* \* \* \*

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**38.**

**package** Demo;

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

**public** **class** Pattern18 {

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

**int** i,j,n;

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

System.***out***.println("enter no");

n=sc.nextInt();

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

{

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

{

**if**(i+j<=n+1)

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

**else**

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

}

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

{

**if**(i+j<=n+1)

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

**else**

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

}

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

}

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

{

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

{

**if**(i+j<=n+1)

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

**else**

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

}

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

{

**if**(i+j<=n+1)

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

**else**

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

}

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

}

}

}

**output:**

Enter no:6

\* \* \* \* \* \* \* \* \* \* \* \*

\* \* \* \* \* \* \* \* \* \*

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**39.**

**package** Demo;

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

**public** **class** Pattern11 {

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

**int** i, j, n;

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

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

n = sc.nextInt();

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

{

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

{

**if** (i >= j)

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

**else**

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

}

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

{

**if** (i + j >= n + 1)

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

**else**

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

}

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

}

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

{

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

{

**if** (i + j <= n + 1)

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

**else**

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

}

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

{

**if** (i <= j)

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

**else**

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

}

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

}

}

}

**output:**

Enter a number:6

\* \*

\* \* \* \*

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**40.**

**package** Demo;

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

**public** **class** Pattern15

{

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

{

**for**(**int** i=1; i<=10; i++)

{

**for**(**int** j=1; j<=10-i; j++)

{

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

}

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

{

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

}

**for**(**int** j=1; j<=10-i; j++)

{

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

}

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

}

**for**(**int** i=1; i<=10; i++)

{

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

{

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

}

**for**(**int** k=1; k<=20-2\*i; k++)

{

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

}

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

{

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

}

System.***out***.println();

}

}

}

**output:**

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\*\*\*\*\*\*\*\* \*\*\*\*\*\*\*\*

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**41.**

**package** Demo;

**import** java.util.Scanner;

**public** **class** Pattern27 {

**public** **static** **void** main(String[] args) {

**int** i,j,n;

Scanner sc = **new** Scanner(System.***in***);

System.***out***.println("Enter a number:");

n = sc.nextInt();

**for** ( i = 0; i <= n; i++)

{

**for** ( j = 0; j <= n / 2; j++)

{

**if** ((j == 0 || j == n / 2) && i != 0 ||

i == 0 && j != n / 2 || i == n / 2)

{

System.***out***.print("\*");

} **else** {

System.***out***.print(" ");

}

}

System.***out***.println();

}

}

}

**output:**

Enter a number:6

\*\*\*

\* \*

\* \*

\*\*\*\*

\* \*

\* \*

\* \*

**42.**

**package** Demo;

**import** java.util.\*;

**public** **class** Pattern28 {

**public** **static** **void** main(String[] args) {

Scanner sc = **new** Scanner(System.***in***);

System.***out***.println("Enter the number of rows: ");

**int** rows = sc.nextInt();

**for** (**int** i=1; i<= rows ; i++)

{

**for** (**int** j = i; j < rows ; j++) {

System.***out***.print(" ");

}

**for** (**int** k = 1; k <= (2\*i -1) ;k++) {

**if**( k==1 || i == rows || k==(2\*i-1)) {

System.***out***.print("\*");

}

**else** {

System.***out***.print(" ");

}

}

System.***out***.println("");

}

}

}

**output:**

Enter the number of rows: 5

\*

\* \*

\* \*

\* \*

\*\*\*\*\*\*\*\*\*

**43.**

**package** Demo;

**import** java.util.\*;

**public** **class** Pattern29 {

**public** **static** **void** main(String[] args) {

Scanner sc = **new** Scanner(System.***in***);

System.***out***.println("Enter the number of rows: ");

**int** rows = sc.nextInt();

**for** (**int** i=rows; i>= 1 ; i--)

{

**for** (**int** j = i; j < rows ; j++) {

System.***out***.print(" ");

}

**for** (**int** k = 1; k <= (2\*i -1) ;k++) {

**if**( k==1 || i == rows || k==(2\*i-1)) {

System.***out***.print("\*");

}

**else** {

System.***out***.print(" ");

}

}

System.***out***.println("");

}

}

}

**output:**

Enter the number of rows: 5

\*\*\*\*\*\*\*\*\*

\* \*

\* \*

\* \*

\*

**44.**

**package** Demo;

**import** java.util.\*;

**public** **class** Pattern30 {

**public** **static** **void** main(String[] args) {

Scanner sc = **new** Scanner(System.***in***);

System.***out***.println("Enter the number of rows: ");

**int** rows = sc.nextInt();

**for** (**int** i=1; i<= rows ; i++) { **for** (**int** j = rows; j > i ; j--) {

System.***out***.print(" ");

}

System.***out***.print("\*");

**for** (**int** k = 1; k < 2\*(i -1) ;k++) { System.***out***.print(" "); } **if**( i==1) { System.***out***.println(""); } **else** { System.***out***.println("\*"); } } **for** (**int** i=rows-1; i>= 1 ; i--)

{

**for** (**int** j = rows; j > i ; j--) {

System.***out***.print(" ");

}

System.***out***.print("\*");

**for** (**int** k = 1; k < 2\*(i -1) ;k++) {

System.***out***.print(" ");

}

**if**( i==1)

System.***out***.println("");

**else**

System.***out***.println("\*");

}

}

}

**output:**

Enter the number of rows: 6

\*

\* \*

\* \*

\* \*

\* \*

\* \*

\* \*

\* \*

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\* \*

\*

**45.**

**package** Demo;

**public** **class** Pattern31 {

**public** **static** **void** main(String[] args) {

**int** n = 5;

**for** (**int** i = 0; i < n; i++) {

**int** number = 1;

System.***out***.printf("%" + (n - i) \* 2 + "s", "");

**for** (**int** j = 0; j <= i; j++) {

System.***out***.printf("%4d", number);

number = number \* (i - j) / (j + 1);

}

System.***out***.println();

}

}

}

**output:**

1

1 1

1 2 1

1 3 3 1

1 4 6 4 1

**46.**

**package** Demo;

**import** java.util.\*;

**public** **class** Pattern32 {

**public** **static** **void** main(String[] args) {

**for** (**int** i = 1; i <= 4; i++)

{

**int** n = 4;

**for** (**int** j = 1; j<= n - i; j++)

{

System.***out***.print(" ");

}

**for** (**int** k = i; k >= 1; k--)

{

System.***out***.print(k);

}

**for** (**int** l = 2; l <= i; l++)

{

System.***out***.print(l);

}

System.***out***.println();

}

**for** (**int** i = 3; i >= 1; i--)

{

**int** n = 3;

**for** (**int** j = 0; j<= n - i; j++)

{

System.***out***.print(" ");

}

**for** (**int** k = i; k >= 1; k--)

{

System.***out***.print(k);

}

**for** (**int** l = 2; l <= i; l++)

{

System.***out***.print(l);

}

System.***out***.println();

}

}

}

**output:**

1

212

32123

4321234

32123

212

1

**47.**

**package** Demo;

**import** java.util.\*;

**public** **class** Pattern33 {

**public** **static** **void** main(String[] args) {

**int** n = 5;

**for** (**int** i = 1; i <= n; i++)

{

**for** (**int** j = 1; j < i; j++)

{

System.***out***.print(" ");

}

**for** (**int** k = i; k <= n; k++)

{

System.***out***.print(k+" ");

}

System.***out***.println();

}

**for** (**int** i = n-1; i >= 1; i--)

{

**for** (**int** j = 1; j < i; j++)

{

System.***out***.print(" ");

}

**for** (**int** k = i; k <= n; k++)

{

System.***out***.print(k+" ");

}

System.***out***.println();

}

}

}

**output:**

1 2 3 4 5

2 3 4 5

3 4 5

4 5

5

4 5

3 4 5

2 3 4 5

1 2 3 4 5

**48.**

**package** Demo;

**import** java.util.\*;

**public** **class** Pattern34 {

**public** **static** **void** main(String[] args) {

**int** rows;

Scanner sc = **new** Scanner(System.***in***);

System.***out***.println("Enter the number of rows: ");

rows = sc.nextInt();

**for** (**int** i = 1; i <= rows; i++)

{

**for** (**int** j = i; j >= 1; j--)

{

System.***out***.print(j+" ");

}

System.***out***.println();

}

}

}

**output:**

Enter the number of rows: 5

1

2 1

3 2 1

4 3 2 1

5 4 3 2 1

**49.**

**package** Demo;

**import** java.util.\*;

**public** **class** Pattern35 {

**public** **static** **void** main(String[] args) {

Scanner sc = **new** Scanner(System.***in***);

System.***out***.println("Enter the number of rows: ");

**int** rows = sc.nextInt();

**for** (**int** i= 1; i<= rows ; i++)

{

**for** (**int** j=i; j <rows ;j++)

{

System.***out***.print(" ");

}

**for** (**int** k=1; k<=i;k++)

{ System.***out***.print("\*");

} System.***out***.println("");

}

**for** (**int** i=rows; i>=1; i--)

{

**for**(**int** j=i; j<=rows;j++)

{

System.***out***.print(" ");

}

**for**(**int** k=1; k<i ;k++)

{

System.***out***.print("\*");

}

System.***out***.println("");

}

}

}

**output:**

Enter the number of rows: 5

\*

\*\*

\*\*\*

\*\*\*\*

\*\*\*\*\*

\*\*\*\*

\*\*\*

\*\*

\*

**50.**

**package** Demo;

**import** java.util.Scanner;

**public** **class** Pattern36 {

**public** **static** **void** main(String[] args) {

Scanner sc = **new** Scanner(System.***in***);

System.***out***.println("Enter the number of rows: ");

**int** rows = sc.nextInt();

**for** (**int** i = 1; i <= rows; i++)

{

**for** (**int** j = 1; j <= i; j++)

{

**if**(j%2 == 0)

{

System.***out***.print(0);

}

**else**

{

System.***out***.print(1);

}

}

System.***out***.println();

}

}

}

**output:**

Enter the number of rows: 5

1

10

101

1010

10101

**51.Accept n num from user & print prime no upto n.**

**package** Demo;

**import** java.util.\*;

**public** **class** Pattern22 {

**public** **static** **void** main(String[] args) {

**int** i, j, flag, n, range;

Scanner sc = **new** Scanner(System.***in***);

System.***out***.println("Enter range:");

range = sc.nextInt();

System.***out***.println("Prime numbers up to " + range + " are:");

**for** (j = 2; j <= range; j++)

{

n = j;

flag = 0;

**for** (i = 2; i <= n / 2; i++)

{

**if** (n % i == 0)

{

flag = 1;

**break**;

}

}

**if** (flag == 0)

{

System.***out***.println(+j);

}

}

}

}

**output:**

Enter range:20

Prime numbers up to 20 are:

2

3

5

7

11

13

17

19

**52.Accept n num from user & print perfect no upto n.**

**package** Demo;

**import** java.util.\*;

**public** **class** Pattern23 {

**public** **static** **void** main(String[] args) {

**int** i, j, sum, range, n;

Scanner sc = **new** Scanner(System.***in***);

System.***out***.println("Enter range:");

range = sc.nextInt();

System.***out***.println("Perfect numbers up to " + range + " are:");

**for** (j = 1; j <= range; j++) {

n = j;

sum = 0;

**for** (i = 1; i <= n / 2; i++)

{

**if** (n % i == 0)

{

sum = sum + i;

}

}

**if** (sum == j && j != 0) {

System.***out***.println(j);

}

}

}

}

**output:**

Enter range:50

Perfect numbers up to 50 are:

6

28

**53.Accept n num from user & print pronic no upto n.**

**package** Demo;

**import** java.util.\*;

**public** **class** Pattern24 {

**public** **static** **void** main(String[] args) {

**int** i, j, flag=0, n, range;

Scanner sc = **new** Scanner(System.***in***);

System.***out***.println("Enter range:");

range = sc.nextInt();

System.***out***.println("Pronic numbers up to " + range + " are:");

**for** (j = 1; j <= range; j++) {

n = j;

flag = 0;

**for** (i = 1; i <= n / 2; i++) {

**if** (n == (i\*(i+1))) {

flag = 1;

**break**;

}

}

**if** (flag == 1) {

System.***out***.println(+j);

}

}

}

}

**output:**

Enter range:20

Pronic numbers up to 20 are:

2

6

12

20

**54.**

**package** Demo;

**import** java.util.\*;

**public** **class** Pattern25 {

**public** **static** **void** main(String[] args) {

**int** i,j,n;

Scanner sc = **new** Scanner(System.***in***);

System.***out***.println("Enter number:");

n = sc.nextInt();

**for** ( i = 0; i < n; i++)

{

**for** ( j = 0; j < n; j++)

{

**if** ((i == n / 2) || (j == n / 2))

{

System.***out***.print("+ ");

} **else**

{

System.***out***.print(" ");

}

}

System.***out***.println();

}

}

}

**output:**

Enter number:5

+

+

+ + + + +

+

+

**55.**

**package** Demo;

**import** java.util.\*;

**public** **class** Pattern26 {

**public** **static** **void** main(String[] args) {

**int** i, j, n;

Scanner sc = **new** Scanner(System.***in***);

System.***out***.println("Enter a number:");

n = sc.nextInt();

**for**(i = 1; i <= n; i++)

{

**for**(j = 1; j <= n; j++)

{

**if** (i == 1 || i == n || j == 1 || j == n)

{

System.***out***.print("\* ");

} **else** {

System.***out***.print(" ");

}

}

System.***out***.println();

}

}

}

**output:**

Enter a number:4

\* \* \* \*

\* \*

\* \*

\* \* \* \*

**56.**

**package** Demo;

**import** java.util.Scanner;

**public** **class** Pattern37 {

**public** **static** **void** main(String[] args) {

**int** i, j,sum=0,f1, n;

Scanner sc = **new** Scanner(System.***in***);

System.***out***.println("Enter a number:");

n = sc.nextInt();

**for**(i = 1; i <= n; i++)

{

f1=1;

**for**(j = 1; j <= i; j++)

{

f1=f1\*j;

}

sum=sum+f1;

}

System.***out***.println("sum is "+sum);

}

}

**output:**

Enter a number:2

sum is 3

**57.**

**package** Demo;

**import** java.util.Scanner;

**public** **class** Pattern38 {

**public** **static** **void** main(String[] args) {

**int** i, j,sum=0,f1,n,x;

Scanner sc = **new** Scanner(System.***in***);

System.***out***.println("Enter value of x:");

x = sc.nextInt();

System.***out***.println("Enter value of n:");

n = sc.nextInt();

**for**(i = 1; i <= n; i++)

{

f1=1;

**for**(j = 1; j <= i; j++)

{

f1=f1\*x;

}

sum=sum+f1;

}

System.***out***.println("sum is "+sum);

}

}

**output:**

Enter value of x:

3

Enter value of n:

2

sum is 12

**58.**

**package** Demo;

**import** java.util.Scanner;

**public** **class** Pattern39 {

**public** **static** **void** main(String[] args) {

**int** i, j,sum=0,f1,n;

Scanner sc = **new** Scanner(System.***in***);

System.***out***.println("Enter value of n:");

n = sc.nextInt();

**for**(i = 1; i <= n; i++)

{

f1=1;

**for**(j = 1; j <= i; j++)

{

f1=f1\*i;

}

sum=sum+f1;

}

System.***out***.println("sum is "+sum);

}

}

**output:**

Enter value of n:

4

sum is 288

**59.**

**package** Demo;

**import** java.util.\*;

**public** **class** Pattern40 {

**public** **static** **void** main(String[] args) {

**int** i, j, sum = 0, f1, f2, n, x;

Scanner sc = **new** Scanner(System.***in***);

System.***out***.println("Enter value of x:");

x = sc.nextInt();

System.***out***.println("Enter value of n:");

n = sc.nextInt();

**for** (i = 1; i <= n; i++)

{

f1 = 1;

f2 = 1;

**for** (j = i; j > i; j--)

{

f1 = f1 \* j;

}

**for** (j = 1; j <= i; j++)

{

f2 = f2 \* x;

}

sum = sum + (f2 / f1);

}

System.***out***.println("sum is " + sum);

}

}

**output:**

Enter value of x:

3

Enter value of n:

5

sum is 363