**Rhombus**

**Question 1:**

Report

**Marks: +10-0**

**Description:**

Write a Program to Print the Following Pattern?

If Input is 5 then Print

\*      \*

\* \*    \*

\*   \*  \*

\*    \* \*

\*      \*

**Constraints:**

Input          :- First Line of Input Consists of One Integer Value.

Output        :- Print the Given Pattern.

Constraints  :- Given Input must be Greater than 0 or Else Print **"Invalid Input"**.

**Example:**

Input   1:    5

Output 1:

\*      \*

\* \*    \*

\*   \*  \*

\*    \* \*

\*      \*

Input 2  :    -6

Output 2:    Invalid Input

**Explanation:**

NA

**Your Code: java**

import java.util.Scanner;

class Main

{

public static void main(String[]args)

{

Scanner sc=new Scanner(System.in);

int n=sc.nextInt();

if(n<=0)

{

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

}

else{

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

{

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

{

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

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

else

System.out.print(" ");

}

System.out.println();

}

}

}

}

**Question 2:**

Report

**Marks: +10-0**

**Description:**

Write a Program to Print the Following Pattern?

If Input is 4 and 2 then Print

2

3 3

4 4 4

5 5 5 5

5 5 5 5

4 4 4

3 3

2

**Constraints:**

Input          :- First Line of Input Consists of One Integer Value ( Rows ).

                     Second Line of Input Consists of One Integer Value ( Starting Values ).

Output        :- Print the Given Pattern.

Constraints  :- Given Inputs must be Greater than 0 or Else Print **"Invalid Inputs"**.

                      If the Given Row Value is not Greater than zero then print **"Given Row is Invalid."**.

                      If the Given Starting Value is not Greater than zero then print **"Invalid STarTing value."**.

                      If the Given Starting Value is must be in the range of 2 to 10 or else print **"Given Starting is Invalid"**.

**Example:**

Input   1:

4

2

Output 1:

2

3 3

4 4 4

5 5 5 5

5 5 5 5

4 4 4

3 3

2

Input 2  :

-6

-4

Output 2:    Invalid Inputs

**Explanation:**

NA

**Your Code: java**

import java.util.Scanner;

class Main

{

public static void main(String[] args)

{

Scanner sc=new Scanner(System.in);

int rows=sc.nextInt();

int start=sc.nextInt();

if(rows<=0 && start<=0)

{

System.out.print("Invalid Inputs");

}

else if(rows<=0)

{

System.out.println("Given Row is Invalid.");

}else if(start<=0)

{

System.out.print("Invalid STarTing value.");

}else if(start<2 ||start>10)

{

System.out.print("Given Starting is Invalid");

}

else{

//upper pyramid

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

{

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

{

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

}

start++;

System.out.println();

}

//Middle row again(repeat last increment value

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

{

System.out.print((start-1)+" ");

}

System.out.println();

//lower pyramid

start*--;*

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

{

start*--;*

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

{

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

}

System.out.println();

}

}

}

}

**Question 3:**

Report

**Marks: +10-0**

**Description:**

Write a Program to Print the Following Pattern?

If Input is 5 then Print

1 2 3 4 5 4 3 2 1

  2 3 4 5 4 3 2

    3 4 5 4 3

      4 5 4

        5

      4 5 4

    3 4 5 4 3

  2 3 4 5 4 3 2

1 2 3 4 5 4 3 2 1

**Constraints:**

Input          :- First Line of Input Consists of One Integer Value.

Output        :- Print the Given Pattern.

Constraints  :- Given Input must be Greater than 0 or Else Print **"Invalid Input"**.

**Example:**

Input   1:    5

Output 1:

1 2 3 4 5 4 3 2 1

  2 3 4 5 4 3 2

    3 4 5 4 3

      4 5 4

        5

      4 5 4

    3 4 5 4 3

  2 3 4 5 4 3 2

1 2 3 4 5 4 3 2 1

Input 2  :    -5

Output 2:    Invalid Input

**Explanation:**

NA

**Your Code: java**

import java.util.Scanner;

class Main

{

public static void main(String[]args)

{

Scanner sc=new Scanner(System.in);

int n=sc.nextInt();

if(n<=0)

{

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

}

else{

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

{

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

{

System.out.print(" ");

}

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

{

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

}

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

{

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

}

System.out.println();

}

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

{

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

{

System.out.print(" ");

}

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

{

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

}

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

{

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

}

System.out.println();

}

}

}

}

**Question 4:**

Report

**Marks: +10-0**

**Description:**

Write a Program to Print the Following Pattern?

If Input is 5 then Print

    \*

   # #

  \* \* \*

 # # # #

\* \* \* \* \*

 # # # #

  \* \* \*

   # #

    \*

**Constraints:**

Input          :- First Line of Input Consists of One Integer Value.

Output        :- Print the Given Pattern.

Constraints  :- Given Input must be Greater than 0 or Else Print **"Invalid Input"**.

**Example:**

Input   1:    5

Output 1:

    \*

   # #

  \* \* \*

 # # # #

\* \* \* \* \*

 # # # #

  \* \* \*

   # #

    \*

Input 2  :    -3

Output 2:    Invalid Input

**Explanation:**

NA

**Your Code: java**

import java.util.Scanner;

class Main

{

public static void main(String[] args)

{

Scanner sc=new Scanner(System.in);

int n=sc.nextInt();

if(n<=0)

{

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

}

else

{

//upper half

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

{

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

{

if(i%2==0)

{

if(j<=n-i)

System.out.print(" ");

else

System.out.print("# ");

}

else

{

if(j<=n-i)

System.out.print(" ");

else

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

}

}

System.out.println();

}

}

//lower half

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

{

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

{

if(i%2==0)

{

if(j<=n-i)

System.out.print(" ");

else

System.out.print("# ");

}

else

{

if(j<=n-i)

System.out.print(" ");

else

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

}

}System.out.println();

}

}

}

**Question 5:**

Report

**Marks: +10-0**

**Description:**

Write a Program to Print the Following Pattern?

If Input is 4 then Print

   1

  121

 12321

1234321

 12321

  121

   1

**Constraints:**

Input          :- First Line of Input Consists of One Integer Value.

Output        :- Print the Given Pattern.

Constraints  :- Given Input must be Greater than 0 or Else Print **"Invalid Input"**.

**Example:**

Input   1:    4

Output 1:

   1

  121

 12321

1234321

 12321

  121

   1

Input 2  :    -6

Output 2:    Invalid Input

**Explanation:**

NA

**Your Code: java**

import java.util.Scanner;

class Main

{

public static void main(String[]args)

{

Scanner sc=new Scanner(System.in);

int n=sc.nextInt();

if(n<=0)

{

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

}

else{

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

{

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

{

System.out.print(" ");

}

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

{

System.out.print(j);

}

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

{

System.out.print(j);

}

System.out.println();

}

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

{

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

{

System.out.print(" ");

}

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

{

System.out.print(j);

}

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

{

System.out.print(j);

}

System.out.println();

}

}

}

}

**Question 6:**

Report

**Marks: +10-0**

**Description:**

Write a Program to Print the Following Pattern?

If Input is 4 then Print

1

2 4

3 6 9

4 8 12 16

5 10 15

6 12

7

**Constraints:**

Input          :- First Line of Input Consists of One Integer Value.

Output        :- Print the Given Pattern.

Constraints  :- Given Input must be Greater than 0 or Else Print **"Invalid Input."**.

**Example:**

Input   1:    4

Output 1:

1

2 4

3 6 9

4 8 12 16

5 10 15

6 12

7

Input 2  :    -3

Output 2:    Invalid Input.

**Explanation:**

NA

**Your Code: java**

import java.util.Scanner;

class Main

{

public static void main(String[] args)

{

Scanner sc=new Scanner(System.in);

int n=sc.nextInt();

if(n<=0)

{

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

}

else{

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

{

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

{

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

}

System.out.println();

}

//second half

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

{

int count=2\*n-i;

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

{

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

}

System.out.println();

}

}

}

}

**Question 7:**

Report

**Marks: +10-0**

**Description:**

Write a Program to Print the Following Pattern?

If Input is 5 then Print

\*\*\*\*\*

 \*\*\*\*\*

  \*\*\*\*\*

   \*\*\*\*\*

    \*\*\*\*\*

**Constraints:**

Input          :- First Line of Input Consists of One Integer Value.

Output        :- Print the Given Pattern.

Constraints  :- Given Input must be Greater than 0 or Else Print **"Invalid Input"**.

**Example:**

Input   1:    5

Output 1:

\*\*\*\*\*

 \*\*\*\*\*

  \*\*\*\*\*

   \*\*\*\*\*

Input 2  :    -5

Output 2:    Invalid Input

**Explanation:**

NA

**Your Code: java**

import java.util.Scanner;

class Main

{

public static void main(String[]args)

{

Scanner sc=new Scanner(System.in);

int n=sc.nextInt();

if(n<=0)

{

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

}

else{

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

{

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

{

System.out.print(" ");

}

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

{

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

}

System.out.println();

}

}

}

}

**Question 8:**

Report

**Marks: +10-0**

**Description:**

Write a Program to Print the Following Pattern?

If Input is 5 then Print

5

454

34543

2345432

123454321

2345432

34543

454

5

**Constraints:**

Input          :- First Line of Input Consists of One Integer Value.

Output        :- Print the Given Pattern.

Constraints  :- Given Input must be Greater than 0 or Else Print **"Invalid Input"**.

**Example:**

Input   1:    5

Output 1:

5

454

34543

2345432

123454321

2345432

34543

454

5

Input 2  :    -5

Output 2:    Invalid Input

**Explanation:**

NA

**Your Code: java**

import java.util.Scanner;

class Main

{

public static void main(String[]args)

{

Scanner sc=new Scanner(System.in);

int n=sc.nextInt();

int s=n;

if(n<=0)

{

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

}

else{

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

{

int t=s;

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

{

System.out.print(t);

t++;

}

t=t-2;

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

{

System.out.print(t);

t*--;*

}

s*--;*

System.out.println();

}

//lower half

s=2;

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

{

int t=s;

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

{

System.out.print(t);

t++;

}

//decrease part

t=t-2;

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

{

System.out.print(t);

t*--;*

}

s++;

System.out.println();

}

}

}

}

**Question 9:**

Report

**Marks: +10-0**

**Description:**

Write a Program to Print the Following Pattern?

If Input is 5 then Print

    \*

   \* \*

  \* \* \*

 \* \* \* \*

\* \* \* \* \*

 \* \* \* \*

  \* \* \*

   \* \*

    \*

**Constraints:**

Input          :- First Line of Input Consists of One Integer Value.

Output        :- Print the Given Pattern.

Constraints  :- Given Input must be Greater than 0 or Else Print **"Invalid Input".**

**Example:**

Input   1:    5

Output 1:

    \*

   \* \*

  \* \* \*

 \* \* \* \*

\* \* \* \* \*

 \* \* \* \*

  \* \* \*

   \* \*

    \*

Input 2  :    -6

Output 2:    Invalid Input

**Explanation:**

NA

**Your Code: java**

import java.util.Scanner;

class Main

{

public static void main(String[]args)

{

Scanner sc=new Scanner(System.in);

int n=sc.nextInt();

if(n<=0)

{

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

}

else

{

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

{

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

{

if(j<=n-i)

System.out.print(" ");

else

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

}

System.out.println();

}

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

{

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

{

if(j<=n-i)

System.out.print(" ");

else

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

}

System.out.println();

}

}

}

}

**Question 10:**

Report

**Marks: +10-0**

**Description:**

Write a Program to Print the Following Pattern?

If Input is 5 and 3 then Print

3

44

555

6666

77777

6666

555

44

3

**Constraints:**

Input          :- First Line of Input Consists of One Integer Value (No of Rows).

                     Second Line of Input Consists of One Integer Value ( Starting Number ).

Output        :- Print the Given Pattern.

Constraints  :- Given Inputs must be Greater than 0 or Else Print **"Invalid Inputs"**.

                      If the Given Row value is less then or equals to zero then print **"Given Row Value is Invalid"**.

                      If the Given Starting value is less then or equals to zero then print **"Given Starting Value is Invalid"**.

**Example:**

Input   1:

5

3

Output 1:

3

44

555

6666

77777

6666

555

44

3

Input 2  :

-6

-5

Output 2:    Invalid Input

**Explanation:**

NA

**Your Code: java**

import java.util.Scanner;

class Main

{

public static void main(String[]args)

{

Scanner sc=new Scanner(System.in);

int n=sc.nextInt();

int c=sc.nextInt();

if(n<=0 && c<=0)

{

System.out.print("Invalid Inputs");

}

else if(n<=0)

{

System.out.print("Given Row Value is Invalid");

}

else if(c<=0)

{

System.out.print("Given Starting Value is Invalid");

}

else

{

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

{

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

{

System.out.print(c);

}

c++;

System.out.println();

}

//lower half

c=c-2;

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

{

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

{

System.out.print(c);

}

c*--;*

System.out.println();

}

}

}

}

**Question 10:**

Report

**Marks: +10-0**

**Description:**

Write a Program to Print the Following Pattern?

If Input is 5 and 3 then Print

3

44

555

6666

77777

6666

555

44

3

**Constraints:**

Input          :- First Line of Input Consists of One Integer Value (No of Rows).

                     Second Line of Input Consists of One Integer Value ( Starting Number ).

Output        :- Print the Given Pattern.

Constraints  :- Given Inputs must be Greater than 0 or Else Print **"Invalid Inputs"**.

                      If the Given Row value is less then or equals to zero then print **"Given Row Value is Invalid"**.

                      If the Given Starting value is less then or equals to zero then print **"Given Starting Value is Invalid"**.

**Example:**

Input   1:

5

3

Output 1:

3

44

555

6666

77777

6666

555

44

3

Input 2  :

-6

-5

Output 2:    Invalid Input

**Explanation:**

NA

**Your Code: java**

import java.util.Scanner;

class Main

{

public static void main(String[]args)

{

Scanner sc=new Scanner(System.in);

int n=sc.nextInt();

int c=sc.nextInt();

if(n<=0 && c<=0)

{

System.out.print("Invalid Inputs");

}

else if(n<=0)

{

System.out.print("Given Row Value is Invalid");

}

else if(c<=0)

{

System.out.print("Given Starting Value is Invalid");

}

else

{

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

{

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

{

System.out.print(c);

}

c++;

System.out.println();

}

//lower half

c=c-2;

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

{

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

{

System.out.print(c);

}

c*--;*

System.out.println();

}

}

}

}

**Question 12:**

Report

**Marks: +10-0**

**Description:**

Write a Program to Print the Following Pattern?

If Input is 4 then Print

   0

  0 0

 0 0 0

0 0 0 0

 0 0 0

  0 0

   0

**Constraints:**

Input          :- First Line of Input Consists of One Integer Value.

Output        :- Print the Given Pattern.

Constraints  :- Given Input must be Greater than 0 or Else Print **"Invalid Input"**.

**Example:**

Input   1:    4

Output 1:

   0

  0 0

 0 0 0

0 0 0 0

 0 0 0

  0 0

   0

Input 2  :    -6

Output 2:    Invalid Input

**Explanation:**

NA

**Your Code: java**

import java.util.Scanner;

class Main

{

public static void main(String[]args)

{

Scanner sc=new Scanner(System.in);

int n=sc.nextInt();

if(n<=0)

{

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

}

else

{

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

{

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

{

if(j<=n-i)

System.out.print(" ");

else

System.out.print("0 ");

}

System.out.println();

}

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

{

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

{

if(j<=n-i)

System.out.print(" ");

else

System.out.print("0 ");

}

System.out.println();

}

}

}

}