Code : 1  
package Topic\_02\_Patterns;

import java.util.Scanner;

public class A\_Pattern1 {

public static void main(String[] args) {

Scanner s = new Scanner(System.in);

int n = s.nextInt();

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

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

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

}

System.out.println();

}

}

}

/\*

I/P

5

O/P

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\* \* \* \* \*

\*/

Code : 2  
package Topic\_02\_Patterns;

import java.util.Scanner;

public class B\_Pattern2 {

public static void main(String[] args) {

Scanner s = new Scanner(System.in);

int n = s.nextInt();

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

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

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

}

System.out.println();

}

}

}

/\*

I/P

5

O/P

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\*/

Code : 3  
package Topic\_02\_Patterns;

import java.util.Scanner;

public class C\_Pattern3 {

public static void main(String[] args) {

Scanner s = new Scanner(System.in);

int n = s.nextInt();

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

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

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

}

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

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

}

System.out.println();

}

}

}

/\*

I/P

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O/P

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Code : 4  
package Topic\_02\_Patterns;

import java.util.Scanner;

public class D\_Pattern4 {

public static void main(String[] args) {

Scanner s = new Scanner(System.in);

int n = s.nextInt();

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

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

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

}

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

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

}

System.out.println();

}

}

}

/\*

I/P

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O/P

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Code : 5  
package Topic\_02\_Patterns;

import java.util.Scanner;

public class E\_Pattern5 {

public static void main(String[] args) {

Scanner s = new Scanner(System.in);

int n = s.nextInt();

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

// type 1

for (int j = 1; j <= ((n / 2) - i + 1); j++) {

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

}

// type 2

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

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

}

System.out.println();

}

// lower half

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

// type 1

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

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

}

// type 2

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

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

}

System.out.println();

}

}

}

/\*

I/P

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O/P

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Code : 6  
package Topic\_02\_Patterns;

import java.util.Scanner;

public class F\_Pattern6 {

public static void main(String[] args) {

Scanner s = new Scanner(System.in);

int n = s.nextInt();

int nosp = 1;

int nost = n / 2 + 1;

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

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

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

}

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

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

}

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

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

}

nost--;

System.out.println();

}

nosp = n - 2;

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

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

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

}

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

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

}

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

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

}

nosp = nosp - 2;

System.out.println();

}

}

}

/\*

I/P

5

O/P

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Code : 7  
package Topic\_02\_Patterns;

import java.util.\*;

public class G\_Pattern7 {

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

int n = sc.nextInt();

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

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

if (i == j) {

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

} else {

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

}

}

System.out.println();

}

}

}

/\*

Sample Input

5

Sample Output

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\*

\*

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\*/

Code : 8  
package Topic\_02\_Patterns;

import java.util.\*;

public class H\_Pattern8 {

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

int n = sc.nextInt();

int nosp = n - 1;

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

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

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

}

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

nosp--;

System.out.println();

}

}

}

/\*

Sample Input

5

Sample Output

\*

\*

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\*/

Code : 9  
package Topic\_02\_Patterns;

import java.util.\*;

public class I\_Pattern9 {

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

int n = sc.nextInt();

int nosp = n - 2;

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

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

if (i == j) {

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

for (int j2 = 1; j2 <= nosp; j2++) {

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

}

if (i != n / 2 + 1)

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

} else {

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

}

}

nosp = nosp - 2;

System.out.println();

}

nosp = 1;

int op = n / 2 - 1;

int innerspace = 1;

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

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

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

}

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

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

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

}

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

op--;

innerspace = innerspace + 2;

System.out.println();

}

}

}

/\*

Sample Input

5

Sample Output

\* \*

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Code : 10  
package Topic\_02\_Patterns;

import java.util.\*;

public class J\_Pattern10 {

public static void main(String[] args) {

Scanner scn = new Scanner(System.in);

int n = scn.nextInt();

int nos = n / 2;

int nis = -1;

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

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

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

}

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

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

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

}

if (i > 1 && i < n) {

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

}

if (i <= n / 2) {

nos--;

nis += 2;

} else {

nos++;

nis -= 2;

}

System.out.println();

}

}

}

/\*

Sample Input

5

Sample Output

\*

\* \*

\* \*

\* \*

\*

\*/

Code : 11  
package Topic\_02\_Patterns;

import java.util.\*;

public class K\_Pattern11 {

public static void main(String[] args) {

Scanner scn = new Scanner(System.in);

int n = scn.nextInt();

// write ur code here

int nst = 1;

int val = 1;

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

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

System.out.print(val + "\t");

val++;

}

System.out.println();

nst++;

}

}

}

/\*

Sample Input

5

Sample Output

1

2 3

4 5 6

7 8 9 10

11 12 13 14 15

\*/

Code : 12  
package Topic\_02\_Patterns;

import java.util.\*;

public class L\_Pattern12 {

public static void main(String[] args) {

Scanner scn = new Scanner(System.in);

int n = scn.nextInt();

// write ur code here

int nst = 1;

int a = 0;

int b = 1;

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

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

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

int c = a + b;

a = b;

b = c;

}

System.out.println();

nst++;

}

}

}

/\*

Sample Input

5

Sample Output

0

1 1

2 3 5

8 13 21 34

55 89 144 233 377

\*/

Code : 13  
package Topic\_02\_Patterns;

import java.util.\*;

public class M\_Pattern13 {

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

int rows = sc.nextInt();

int nck = 1;

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

nck = 1;

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

System.out.print(nck + "\t");

int n\_minus\_k = n - k;

int kplus1 = k + 1;

nck = (nck \* n\_minus\_k) / (kplus1);

}

System.out.println();

}

}

}

/\*

Sample Input

5

Sample Output

1

1 1

1 2 1

1 3 3 1

1 4 6 4 1

\*/

Code : 14  
package Topic\_02\_Patterns;

import java.util.\*;

public class N\_Pattern14 {

public static void main(String[] args) {

Scanner scn = new Scanner(System.in);

// write ur code here

int x = scn.nextInt();

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

System.out.println(x + " \* " + ja + " = " + (x \* ja));

}

}

}

/\*

Sample Input

3

Sample Output

3 \* 1 = 3

3 \* 2 = 6

3 \* 3 = 9

3 \* 4 = 12

3 \* 5 = 15

3 \* 6 = 18

3 \* 7 = 21

3 \* 8 = 24

3 \* 9 = 27

3 \* 10 = 30

\*/

Code : 15  
package Topic\_02\_Patterns;

import java.util.Scanner;

public class O\_Pattern15 {

public static void main(String[] args) {

Scanner s = new Scanner(System.in);

int n = s.nextInt();

int nsp = n / 2;

int nst = 1;

int val = 1;

int k = 1;

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

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

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

}

int temp = val;

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

System.out.print(temp + "\t");

if (j < nst / 2 + 1)

temp++;

else

temp--;

}

if (i < (n / 2 + 1)) {

nst = nst + 2;

nsp--;

val++;

} else {

nst = nst - 2;

nsp++;

val--;

}

System.out.println();

}

}

}

/\*

Sample Input

5

Sample Output

1

2 3 2

3 4 5 4 3

2 3 2

1

\*/

Code : 16  
package Topic\_02\_Patterns;

import java.util.\*;

public class P\_Pattern16 {

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

int n = sc.nextInt();

int sop = (2 \* n) - 3;

int val = 1;

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

val = 1;

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

System.out.print(val + "\t");

val = val + 1;

}

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

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

}

int k = (i == n) ? i - 1 : i;

val = k;

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

System.out.print(val + "\t");

val--;

}

sop = sop - 2;

System.out.println();

}

}

}

/\*

Sample Input

7

Sample Output

for n=7

1 1

1 2 2 1

1 2 3 3 2 1

1 2 3 4 4 3 2 1

1 2 3 4 5 5 4 3 2 1

1 2 3 4 5 6 6 5 4 3 2 1

1 2 3 4 5 6 7 6 5 4 3 2 1

for n=5

1 1

1 2 2 1

1 2 3 3 2 1

1 2 3 4 3 2 1

\*/

Code : 17  
package Topic\_02\_Patterns;

import java.util.\*;

public class Q\_Pattern17 {

public static void main(String[] args) {

Scanner scn = new Scanner(System.in);

int n = scn.nextInt();

int nst = 1;

int nsp = n / 2;

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

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

if (i == (n / 2 + 1)) {

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

} else {

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

}

}

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

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

}

System.out.println();

if (i <= n / 2) {

nst++;

} else {

nst--;

}

}

}

}

/\*

Sample Input

5

Sample Output

\*

\* \*

\* \* \* \* \*

\* \*

\*

\*/

Code : 18  
package Topic\_02\_Patterns;

import java.util.\*;

public class R\_Pattern18 {

public static void main(String[] args) {

Scanner scn = new Scanner(System.in);

int n = scn.nextInt();

int nst = n;

int nsp = 0;

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

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

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

}

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

if (i >= 2 && i <= n / 2) {

if (j == 1 || j == nst) {

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

} else {

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

}

} else {

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

}

}

if (i <= n / 2) {

nst -= 2;

nsp++;

} else {

nst += 2;

nsp--;

}

System.out.println();

}

}

}

/\*

Sample Input

7

Sample Output

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

\* \*

\* \*

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\* \* \*

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

\*/

Code : 19  
package Topic\_02\_Patterns;

import java.util.\*;

public class S\_Pattern19 {

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

int n = sc.nextInt();

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

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

if (i == 1) {

if (j <= (n / 2) + 1 || j == n) {

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

} else {

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

}

}

if (i > 1 && i <= n / 2) {

if (j == n / 2 + 1 || j == n) {

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

} else {

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

}

}

if (i == n / 2 + 1) {

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

}

if (i > n / 2 + 1 && i < n) {

if (j == 1 || j == n / 2 + 1) {

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

} else {

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

}

}

if (i == n) {

if (j == 1 || j >= n / 2 + 1) {

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

} else {

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

}

}

}

System.out.println();

}

}

}

/\*

For n=7

\* \* \* \* \* //4

\* \* //2

\* \* //2

\* \* \* \* \* \* \* //7

\* \* //2

\* \* //2

\* \* \* \* \* //4

for n=9

\* \* \* \* \* \* //5//3

\* \* //2//3 i>1 && i<n/2 then print space and initialize space = n/2-1

\* \* //2//3

\* \* //2//3

\* \* \* \* \* \* \* \* \* //9//0

\* \* //2//3

\* \* //2//3

\* \* //2//3

\* \* \* \* \* \* //5//3

\*/

Code : 20  
package Topic\_02\_Patterns;

import java.util.\*;

public class T\_Pattern20 {

public static void main(String[] args) {

Scanner scn = new Scanner(System.in);

// write ur code here

int n = scn.nextInt();

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

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

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

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

} else if (i > n / 2 && (i == j || i + j == n + 1)) {

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

} else {

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

}

}

System.out.println();

}

}

}

/\*

Sample output for n=5

\* \*

\* \*

\* \* \*

\* \* \* \*

\* \*

\*/