

Pattern-2:

```
/*  
*  
* *  
* * *  
* * * *  
* * * * *  
* * * * * *  
*/
```

```
#include<iostream>  
using namespace std;
```

```
int main()  
{  
    int n;  
    cin >> n;  
    int i=1;  
    while(i<=n)  
    {  
        int j=1;  
        while(j<=i)  
        {  
            cout << "*" << " ";  
            j+=1;  
        }  
        i+=1;  
    }
```

```
        cout << endl;
    }

    return 0;
}
```

Pattern-3:

```
/*
1
1 2
1 2 3
1 2 3 4
1 2 3 4 5
1 2 3 4 5 6
*/
```

```
#include<iostream>
using namespace std;
```

```
int main()
{
    int n;
    cin >> n;
    int i=1;
    while(i<=n)
    {
        int x=1;
```

```

    int j=1;
    while(j<=i)
    {
        cout << x << " ";
        x++;
        j++;
    }
    i++;
    cout << endl;
}
return 0;
}

```

Pattern-4:

```

/*
1
2 2
3 3 3
4 4 4 4
5 5 5 5 5
6 6 6 6 6 6
*/

```

```

#include<iostream>

using namespace std;

int main()

```

```

{
    int n;
    cin >> n;
    int i=1;
    int x=1;
    while(i<=n)
    {
        int j=1;
        while(j<=i)
        {
            cout << x << " ";
            j++;
        }
        i++;
        x++;
        cout << endl;
    }
    return 0;
}

```

Pattern-5:

```

/*
* * * * *
* * * *
* * * *
* * *
* * *
* *
*/

```

```
*
```

```
*/
```

```
#include<iostream>
```

```
using namespace std;
```

```
int main()
```

```
{
```

```
    int n;
```

```
    cin >> n;
```

```
    int i=1;
```

```
    while(i<=n)
```

```
    {
```

```
        int stars=n-i+1;
```

```
        while(stars)
```

```
        {
```

```
            cout << "*" << " ";
```

```
            stars--;
```

```
        }
```

```
        i++;
```

```
        cout << endl;
```

```
    }
```

```
}
```

Pattern-6:

```
/*
```

```
1 2 3 4 5
```

1 2 3 4

1 2 3

1 2

1

*/

```
#include<iostream>
```

```
using namespace std;
```

```
int main()
```

```
{
```

```
    int n;
```

```
    cin >> n;
```

```
    int i=1;
```

```
    while(i<=n)
```

```
    {
```

```
        int x=1;
```

```
        int numbers=n-i+1;
```

```
        while(numbers)
```

```
        {
```

```
            cout<< x << " ";
```

```
            x++;
```

```
            numbers--;
```

```
        }
```

```
        i++;
```

```
        cout << endl;
```

```
    }
```

```
}
```

Pattern-7:

```
/*
```

```
    *
```

```
  * * *
```

```
 * * * * *
```

```
  * * * * * * *
```

```
 * * * * * * * * *
```

```
  * * * * * * * * * *
```

```
 * * * * * * * * * * * *
```

```
 * * * * * * * * * * * * * *
```

```
*/
```

```
#include<iostream>
```

```
using namespace std;
```

```
int main()
```

```
{
```

```
    int n;
```

```
    cin >> n;
```

```
    int i=1;
```

```
    while(i<=n)
```

```
    {
```

```
        //printing spaces
```

```
        int spaces=n-i;
```

```
        while(spaces)
```

```
        {
```

```

        cout << " " << " ";
        spaces--;
    }
    int j=1;
    while(j<=i)
    {
        cout << "*" << " ";
        j++;
    }
    int stars=i-1;
    while(stars)
    {
        cout << "*" << " ";
        stars--;
    }
    i++;
    cout << endl;
}
}

```

Pattern-8:

```

/*
* * * * *
* * * * *
* * * * *
* * * * *
* * *

```


*

*/

```
#include<iostream>
```

```
using namespace std;
```

```
int main()
```

```
{
```

```
    int n;
```

```
    cin >> n;
```

```
    int i=1;
```

```
    while(i<=n)
```

```
    {
```

```
        //printing spaces
```

```
        int spaces=i-1;
```

```
        while(spaces)
```

```
        {
```

```
            cout << " " << " ";
```

```
            spaces--;
```

```
        }
```

```
        //printing stars..
```

```
        int stars=n-i+1;
```

```
        while(stars)
```

```
        {
```

```
            cout << "*" << " ";
```

```
            stars--;
```

```

    }
    int stars2=n-i;
    while(stars2)
    {

        cout << "*" << " ";

        stars2--;
    }
    i++;
    cout << endl;
}
}

```

Pattern-9:

```

/*
*
* *
* * *
* * * *
* * * * *
* * * * * *
* * * * * * *
* * * * * * * *
* * * * * * * * *
* * * * * * * * * *
* * * * * * * * * *
* * * * * * * * * *
* * * * * * * *
* * * * * * *
* * * * * *
* * * * *
* * * *
* * *
* *
*
*/

```

* * * * *

* * * *

* * *

* *

*

*/

```
#include<iostream>
```

```
using namespace std;
```

```
int main()
```

```
{
```

```
    int n;
```

```
    cin >> n;
```

```
    int i=1;
```

```
    int rows=(2*n-1);
```

```
    while(i<=n)
```

```
    {
```

```
        int j=1;
```

```
        while(j<=i)
```

```
        {
```

```
            cout << "*" << " ";
```

```
            j++;
```

```
        }
```

```
        i++;
```

```
        cout << endl;
```

```

    }
    int left=n-1;
    while(left<=rows)
    {
        int stars=rows-left+1;
        while(stars)
        {
            cout << "*" << " ";
            stars--;
        }
        left++;
        cout << endl;
    }
    return 0;

}

```

Pattern-10:

```

/*
    *

    * * *

    * * * * *

    * * * * * * *

    * * * * * * * * *

    * * * * * * * * * *

    * * * * * * * * * * *

    * * * * * * * * * * *

```

* * * * *

* * * * *

* * *

*

*/

```
#include<iostream>
```

```
using namespace std;
```

```
void print7(int n)
```

```
{
```

```
    int i=1;
```

```
    while(i<=n)
```

```
    {
```

```
        //printing spaces
```

```
        int spaces=n-i;
```

```
        while(spaces)
```

```
        {
```

```
            cout << " " << " ";
```

```
            spaces--;
```

```
        }
```

```
        int j=1;
```

```
        while(j<=i)
```

```
        {
```

```
            cout << "*" << " ";
```

```
            j++;
```

```
        }
```

```
        int stars=i-1;
```

```
    while(stars)
    {
        cout << "*" << " ";
        stars--;
    }
    i++;
    cout << endl;
}

void print8(int n)
{
    int i=1;
    while(i<=n)
    {
        //printing spaces
        int spaces=i-1;
        while(spaces)
        {
            cout << " " << " ";
            spaces--;
        }
        //printing stars..
        int stars=n-i+1;
        while(stars)
        {
            cout << "*" << " ";
```

```

        stars--;
    }
    int stars2=n-i;
    while(stars2)
    {

        cout << "*" << " ";
        stars2--;
    }
    i++;
    cout << endl;
}
}

```

```

int main()
{
    int n;
    cin >> n;
    print7(n);
    print8(n);
    return 0;
}

```

Pattern-11:

```

/*
1
0 1

```

1 0 1

0 1 0 1

1 0 1 0 1

0 1 0 1 0 1

1 0 1 0 1 0 1

*/

```
#include<iostream>
```

```
using namespace std;
```

```
int main()
```

```
{
```

```
    int n;
```

```
    cin >> n;
```

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

```
    {
```

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

```
        {
```

```
            if(i&1)
```

```
            {
```

```
                if(j&1)
```

```
                {
```

```
                    cout << 1 << " ";
```

```
                }
```

```
            else
```

```
            {
```

```
                cout << 0 << " ";
```

```
            }
```



```

        }
    else
    {
        if(j&1)
        {
            cout << 0 << " ";
        }
        else
        {
            cout << 1 << " ";
        }
    }

    }

    cout << endl;

}

}

```

Pattern-12:

```

/*
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
*/

```

```
#include<iostream>
```

```
using namespace std;
```

```
int main()
```

```
{
```

```
    int n;
```

```
    cin >> n;
```

```
    int i=1;
```

```
    while(i<=n)
```

```
    {
```

```
        int x=1;
```

```
        int x2=1;
```

```
        int j=1;
```

```
        while(j<=i)
```

```
        {
```

```
            cout << x << " ";
```

```
            x++;
```

```
            j++;
```

```
        }
```

```
        int spaces=n-i;
```

```
        while(spaces)
```

```
        {
```

```
            cout << " " << " ";
```

```
            spaces--;
```

```
        }
```

```
        int spaces2=n-i;
```

```

while(spaces2)
{
    cout << " " << " ";
    spaces2--;
}
int number=i;
while(number)
{
    cout << number << " ";
    number--;

}
i++;
cout << endl;
}
}

```

Pattern-13:

```

/*
1
2 3
4 5 6
7 8 9 10
11 12 13 14 15
*/

```

```

#include<iostream>

```

```
using namespace std;
```

```
int main()
```

```
{
```

```
    int n;
```

```
    cin >> n;
```

```
    int x=1;
```

```
    int i=1;
```

```
    while(i<=n)
```

```
    {
```

```
        int j=1;
```

```
        while(j<=i)
```

```
        {
```

```
            cout << x << " ";
```

```
            x++;
```

```
            j++;
```

```
        }
```

```
        i++;
```

```
        cout << endl;
```

```
    }
```

```
}
```

Pattern-14:

```
/*
```

```
A
```

```
A B
```

```
A B C
```

A B C D

A B C D E

*/

```
#include<iostream>
```

```
using namespace std;
```

```
int main()
```

```
{
```

```
    int n;
```

```
    cin >> n;
```

```
    int i=1;
```

```
    while(i<=n)
```

```
    {
```

```
        char ch=65;
```

```
        int j=1;
```

```
        while(j<=i)
```

```
        {
```

```
            cout << ch << " ";
```

```
            ch++;
```

```
            j++;
```

```
        }
```

```
        i++;
```

```
        cout << endl;
```

```
    }
```

```
}
```

Pattern-15:

```
/*  
A B C D E  
A B C D  
A B C  
A B  
A  
*/
```

```
#include<iostream>  
using namespace std;
```

```
int main()  
{  
    int n;  
    cin >> n;  
    int i=1;  
    while(i<=n)  
    {  
        int c=n-i+1;  
        char ch=65;  
        while(c)  
        {  
            cout << ch << " ";  
            ch++;  
            c--;  
        }  
    }
```

```
        i++;  
        cout << endl;  
    }  
}
```

Pattern-16:

```
/*  
A  
B B  
C C C  
D D D D  
E E E E E  
*/
```

```
#include<iostream>  
using namespace std;
```

```
int main()  
{  
    int n;  
    cin >> n;  
    int i=1;  
    char ch=65;  
    while(i<=n)  
    {  
        int j=1;  
        while(j<=i)
```

```

        {
            cout << ch << " ";
            j++;
        }
        ch++;
        i++;
        cout << endl;

    }
}

```

Pattern-17:

```

/*
    A
  A B A
A B C B A
A B C D C B A
*/

```

```

#include<iostream>
using namespace std;

int main()
{
    int n;
    cin >> n;
    int i=1;

```



```
while(i<=n)
{
    char co='A'+i-2;
    char ch=65;
    int spaces=n-i;
    while(spaces)
    {
        cout << " " << " ";
        spaces--;
    }
    int c=i;
    while(c)
    {
        cout << ch << " ";
        ch++;
        c--;
    }
    int ci=i-1;
    while(ci)
    {
        ci--;
        cout << co << " ";
        co-=1;
    }
    i++;
}
```

```
cout << endl;
```

```
}
```

```
}
```

Pattern-18:

```
/*
```

```
E
```

```
D E
```

```
C D E
```

```
B C D E
```

```
A B C D E
```

```
*/
```

```
#include<iostream>
```

```
using namespace std;
```

```
int main()
```

```
{
```

```
    int n;
```

```
    cin >> n;
```

```
    int i=1;
```

```
    while(i<=n)
```

```
    {
```

```
        char ch='A'+n-i;
```

```
        int j=1;
```

```
        while(j<=i)
```

```
        {
```

```

        cout << ch << " ";

        ch=ch+1;

        j=j+1;
    }

    i=i+1;

    cout << endl;

}

}

```

Pattern-19:

```

/*
* * * * *
* * * *   * * * *
* * *     * * *
* *       * *
*         *
*         *
* *       * *
* * *     * * *
* * * *   * * * *
* * * * * * * * *
*/

```

```

#include<iostream>

```

```

using namespace std;

```

```

void print_first_part(int n)

```

```

{

```

```

    int i=1;

```

```
while(i<=n)
{
    int stars=n-i+1;
    while(stars)
    {
        cout << "*" << " ";
        stars--;
    }
    int spaces=i-1;
    while(spaces)
    {
        cout << " " << " ";
        spaces--;
    }
    int spaces2=i-1;
    while(spaces2)
    {
        cout << " " << " ";
        spaces2--;
    }
    int stars2=n-i+1;
    while(stars2)
    {
        cout << "*" << " ";
        stars2--;
    }
}
```

```
        i++;
        cout << endl;
    }
}

void print_second_part(int n)
{
    int i=1;
    while(i<=n)
    {
        int j=1;
        while(j<=i)
        {
            cout << "*" << " ";
            j++;
        }
        int spaces=n-i;
        while(spaces)
        {
            cout << " " << " ";
            spaces--;
        }
        int spaces2=n-i;
        while(spaces2)
        {
            cout << " " << " ";
            spaces2--;
```

```
    }  
    int number=i;  
    while(number)  
    {  
        cout << "*" << " ";  
        number--;  
  
    }  
    i++;  
    cout << endl;  
}  
}
```

```
int main()  
{  
    int n;  
    cin >> n;  
    print_first_part(n);  
    print_second_part(n);  
    return 0;  
  
}
```

Pattern-20:

```

/*
*
*
* *
* * *
* * * *
* * * * *
* * * * *
* * * * *
* * * *
* *
*
*/

```

```

#include<iostream>

```

```

using namespace std;

```

```

void upper_part(int n)

```

```

{
    int i=1;
    while(i<=n)
    {
        int stars=i;
        while(stars)
        {
            cout << "*" << " ";
            stars--;
        }
        int spaces=n-i;
        while(spaces)
        {

```

```

        cout << " " << " ";
        spaces--;
    }
    int spaces2=n-i;
    while(spaces2)
    {
        cout << " " << " ";
        spaces2--;
    }
    int stars2=i;
    while(stars2)
    {
        cout << "*" << " ";
        stars2--;
    }
    i++;
    cout << endl;
}
}
void lower_part(int n)
{
    int i=1;
    while(i<=n)
    {
        int stars=n-i+1;
        while(stars)
        {
            cout << "*" << " ";
            stars--;
        }
    }
}

```



```

    }
    int spaces=i;
    while(spaces)
    {
        cout << " " << " ";
        spaces--;
    }
    int spaces2=i;
    while(spaces2)
    {
        cout << " " << " ";
        spaces2--;
    }
    int stars2=n-i+1;
    while(stars2)
    {
        cout << "*" << " ";
        stars2--;
    }
    i++;
    cout << endl;
}
}

```

```

int main()
{
    int n;
    cin >> n;
    upper_part(n);
}

```

```
    lower_part(n-1);  
    return 0;  
}
```

Pattern-21:

```
/*  
* * * * *  
  
*       *  
  
*       *  
  
*       *  
  
* * * * *  
  
*/
```

```
#include<iostream>  
using namespace std;
```

```
int main()  
{  
    int n;  
    cin >> n;  
    int i=1;  
    while(i<=n)  
    {  
        int j=1;  
        while(j<=n)
```

```
{
    if(i==1 || i==n)
    {
        cout << "*" << " ";
        j+=1;
    }
    else
    {
        if(j==1 || j==n)
        {
            cout << "*" << " ";
            j++;
        }
        else
        {
            cout << " " << " ";
            j++;
        }
    }

}

i++;
cout << endl;
}

}
```

Pattern-22:

```
/*
4 4 4 4 4 4 4
4 3 3 3 3 3 4
4 3 2 2 2 3 4
4 3 2 1 2 3 4
4 3 2 2 2 3 4
4 3 3 3 3 3 4
4 4 4 4 4 4 4
*/

#include<iostream>
using namespace std;
int main()
{
    int n;
    cin >>n;
    int rows=(2*n-1);
    int i=0;
    while(i<rows)
    {
        int j=0;
        while(j<rows)
        {
            int top=i;
            int left=j;
            int right=(2*n-2)-j;
```

```

        int down=(2*n-2)-i;
        cout << (n-min(min(top,down),min(left,right))) << " ";
        j++;
    }
    i++;
    cout << endl;
}
}

```

PPS_Pattern_Question:

```

/*
    11
   11 10 11
  11 10 9 10 11
 11 10 9 8 9 10 11
*/

```

```

#include<iostream>
using namespace std;

int main()
{
    int n;
    cin >> n;
    int i=1;
    int x2=12;

```

```
while(i<=n)
{
    int x=11;
    int spaces=n-i;
    while(spaces)
    {
        cout << " " << " ";
        spaces--;
    }
    int numbers=i;
    int var=x;
    while(numbers)
    {
        cout << var << " ";
        var--;
        numbers--;
    }
    int number2=i-1;
    int var2=x2;
    while(number2)
    {
        cout << var2 << " ";
        var2++;
        number2--;
    }
    i++;
}
```

```

        x2--;
        cout << endl;
    }
}

```

Dabbangg pattern:

```

1 2 3 4 5 6 7 8 9 10 10 9 8 7 6 5 4 3 2 1
1 2 3 4 5 6 7 8 9 * * 9 8 7 6 5 4 3 2 1
1 2 3 4 5 6 7 8 * * * * 8 7 6 5 4 3 2 1
1 2 3 4 5 6 7 * * * * * 7 6 5 4 3 2 1
1 2 3 4 5 6 * * * * * * * 6 5 4 3 2 1
1 2 3 4 5 * * * * * * * * * 5 4 3 2 1
1 2 3 4 * * * * * * * * * * * 4 3 2 1
1 2 3 * * * * * * * * * * * * * 3 2 1
1 2 * * * * * * * * * * * * * * * 2 1
1 * * * * * * * * * * * * * * * * * 1

```

```

#include<iostream>
using namespace std;

int main()
{
    int n;
    cin>>n;
    int i=1;
    while(i<=n)
    {
        int x=1;
        int loop=n-i+1;
        while(loop)
        {
            cout<<x << " ";
            x=x+1;

```

```

        loop--;

    }
    int stars=i-1;
    while(stars)
    {
        cout<<"*" << " ";
        stars--;
    }
    // int j=2;
    // while(j<=i)
    // {
    //     cout<<"*";
    //     j=j+1;
    // }
    int stars2=i-1;
    while(stars2)
    {
        cout << "*" << " ";
        stars2--;
    }
    int start=n-i+1;
    while(start)
    {
        cout<<start << " ";
        start--;
    }

    cout<<endl;
    i=i+1;
}
}

```

Advanced Pattern:

```

/*
    1
   2 3 2
  3 4 5 4 3
 4 5 6 7 6 5 4

```


5 6 7 8 9 8 7 6 5

*/

```
#include<iostream>
```

```
using namespace std;
```

```
int main()
```

```
{
```

```
    int n;
```

```
    cin >> n;
```

```
    int i=1;
```

```
    int x=1;
```

```
    int x2=0;
```

```
    while(i<=n)
```

```
    {
```

```
        int spaces=n-i;
```

```
        while(spaces)
```

```
        {
```

```
            cout << " " << " ";
```

```
            spaces--;
```

```
        }
```

```
        int j=1;
```

```
        int number=x;
```

```
        while(j<=i)
```

```
        {
```

```
            cout << number << " ";
```

```
            number++;
```

```
            j++;
```

```
        }
```

```

    int x1=i-1;
    int number2=x2;
    while(x1)
    {
        cout << number2 << " ";
        number2--;
        x1--;
    }
    x2+=2;

    i++;
    x++;
    cout << endl;
}
}

```

Pattern_college_wallah:

```

/*
    A
  A B C
A B C D E
A B C D E F G
A B C D E F G H I
  A B C D E F G
    A B C D E
      A B C
        A
*/

```

```
#include<iostream>

using namespace std;

void upper_part(int n)
{
    int i=1;
    while(i<=n)
    {
        char ch=65;
        int spaces=n-i;
        while(spaces)
        {
            cout << " " << " ";
            spaces--;
        }
        int j=1;
        while(j<=i)
        {
            cout << ch << " ";
            ch++;
            j++;
        }
        char ch1='A'+i;
        int rows=i-1;
        while(rows)
        {
            cout << ch1 << " ";
            ch1++;
            rows--;
        }
    }
}
```

```

        i++;
        cout << endl;

    }
}

void lower_part(int n)
{
    int i=1;
    while(i<=n)
    {
        char ch=65;
        int spaces=i;
        while(spaces)
        {
            cout << " " << " ";
            spaces--;
        }
        int rows=n-i+1;
        while(rows)
        {
            cout << ch << " ";
            ch++;
            rows--;
        }
        char ch1='A'+n-i+1;
        int rows2=n-i;
        while(rows2)
        {

```

```
        cout << ch1 << " ";
        ch1++;
        rows2--;
    }
    i++;
    cout << endl;
```

```
}
```

```
}
```

```
int main()
```

```
{
```

```
    int n;
```

```
    cin >> n;
```

```
    upper_part(n);
```

```
    lower_part(n-1);
```

```
    return 0;
```

```
}
```