

# Example 1: Half Pyramid of \*

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

```
#include <stdio.h>  
int main() {  
    int i, j, rows;  
    printf("Enter the number
```

```
of rows: ");
scanf("%d", &rows);
for (i = 1; i <= rows; ++i) {
    for (j = 1; j <= i; ++j) {
        printf("* ");
    }
    printf("\n");
}
return 0;
}
```

## Example 2: Half Pyramid of Numbers

1

1 2

1 2 3

1 2 3 4

1 2 3 4 5

## C Program

```
#include <stdio.h>
```

```
int main() {
```

```
    int i, j, rows;
```

```
    printf("Enter the number
```

```
of rows: ");
scanf("%d", &rows);
for (i = 1; i <= rows; ++i) {
    for (j = 1; j <= i; ++j) {
        printf("%d ", j);
    }
    printf("\n");
}
return 0;
}
```

## **Example 3: Half Pyramid of Alphabets**

A

B B

C C C

D D D D

E E E E E

## C Program

```
#include <stdio.h>
```

```
int main() {
```

```
    int i, j;
```

```
    char input, alphabet = 'A';
```

```
    printf("Enter an uppercase
```

character you want to print  
in the last row: ");

```
scanf("%c", &input);  
for (i = 1; i <= (input - 'A' +  
1); ++i) {  
    for (j = 1; j <= i; ++j) {  
        printf("%c ", alphabet);  
    }  
    ++alphabet;  
    printf("\n");  
}  
return 0;  
}
```

# Example 4:

## Inverted half pyramid of \*

\* \* \* \* \*

\* \* \* \*

\* \* \*

\* \*

\*

### C Program

```
#include <stdio.h>

int main() {
    int i, j, rows;
    printf("Enter the number
of rows: ");
    scanf("%d", &rows);
    for (i = rows; i >= 1; --i) {
        for (j = 1; j <= i; ++j) {
            printf("* ");
        }
        printf("\n");
    }
    return 0;
}
```



}

# Example 5: Inverted half pyramid of numbers

1 2 3 4 5

1 2 3 4

1 2 3

1 2

1

## C Program

```
#include <stdio.h>
int main() {
    int i, j, rows;
    printf("Enter the number
of rows: ");
    scanf("%d", &rows);
    for (i = rows; i >= 1; --i) {
        for (j = 1; j <= i; ++j) {
            printf("%d ", j);
        }
        printf("\n");
    }
    return 0;
}
```

}

# Example 6: Full Pyramid of \*

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

## C Program

```
#include <stdio.h>
```

```
int main() {
    int i, space, rows, k = 0;
    printf("Enter the number
of rows: ");
    scanf("%d", &rows);
    for (i = 1; i <= rows; ++i, k
= 0) {
        for (space = 1; space <=
rows - i; ++space) {
            printf(" ");
        }
        while (k != 2 * i - 1) {
            printf("* ");
        }
    }
}
```

```
        ++k;  
    }  
    printf("\n");  
}  
return 0;  
}
```

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# C Program to Print Pyramids and Patterns

In this example, you will learn to print half pyramids,

inverted pyramids, full pyramids, inverted full pyramids, Pascal's triangle, and Floyd's triangle in C Programming.

To understand this example, you should have the knowledge of the following C programming topics:

- C if...else Statement

- C for Loop
- C while and do...while Loop
- C break and continue

Here is a list of programs you will find in this page.

C Examples  
Half pyramid of  
\*Half pyramid of



numbers  
Half pyramid of  
alphabets  
Inverted half  
pyramid of \*  
Inverted half  
pyramid of numbers  
Full  
pyramid of \*  
Full pyramid of  
numbers  
Inverted full  
pyramid of \*  
Pascal's  
triangle  
Floyd's triangle

## Example 1: Half Pyramid of \*

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

# C Program

```
#include <stdio.h> int
main() { int i, j, rows;
printf("Enter the number of
rows: "); scanf("%d", &rows);
for (i = 1; i <= rows; ++i) {
for (j = 1; j <= i; ++j) {
printf("* "); } printf("\n"); }
return 0; }
```

Run Code

# Example 2: Half Pyramid of Numbers

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

## C Program

```
#include <stdio.h> int  
main() { int i, j, rows;  
printf("Enter the number of  
rows: "); scanf("%d", &rows);  
for (i = 1; i <= rows; ++i) {
```

```
for (j = 1; j <= i; ++j) {  
    printf("%d ", j); } printf("\n");  
} return 0; }
```

Run Code

## Example 3: Half Pyramid of Alphabets

```
A B B C C C D D D D E E E E  
E
```

C Program

```
#include <stdio.h> int
main() { int i, j; char input,
alphabet = 'A'; printf("Enter
an uppercase character you
want to print in the last row:
"); scanf("%c", &input); for (i
= 1; i <= (input - 'A' + 1); ++i)
{ for (j = 1; j <= i; ++j) {
printf("%c ", alphabet); } +
+alphabet; printf("\n"); }
return 0; }
```

Run Code

## Example 4: Inverted half pyramid of \*

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

### C Program

```
#include <stdio.h> int  
main() { int i, j, rows;  
printf("Enter the number of  
rows: "); scanf("%d", &rows);
```

```
for (i = rows; i >= 1; --i) { for  
(j = 1; j <= i; ++j) { printf("* ");  
} printf("\n"); } return 0; }
```

Run Code

**Example 5: Inverted  
half pyramid of  
numbers**

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

**C Program**

```
#include <stdio.h> int
main() { int i, j, rows;
printf("Enter the number of
rows: "); scanf("%d", &rows);
for (i = rows; i >= 1; --i) { for
(j = 1; j <= i; ++j) { printf("%d
", j); } printf("\n"); } return 0; }
```

Run Code

**Example 6: Full  
Pyramid of \***



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

## C Program

```
#include <stdio.h> int  
main() { int i, space, rows, k  
= 0; printf("Enter the  
number of rows: ");  
scanf("%d", &rows); for (i =  
1; i <= rows; ++i, k = 0) { for  
(space = 1; space <= rows -
```

```
i; ++space) { printf(" "); }  
while (k != 2 * i - 1) {  
printf("* "); ++k; }  
printf("\n"); } return 0; }
```

Run Code

## Example 7: Full Pyramid of Numbers

```
  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

## C Program

```
#include <stdio.h>
```

```
int main() {
```

```
    int i, space, rows, k = 0,
```

```
    count = 0, count1 = 0;
```

```
    printf("Enter the number  
of rows: ");
```

```
    scanf("%d", &rows);
```

```
    for (i = 1; i <= rows; ++i) {
```

```
        for (space = 1; space <=
```

```
rows - i; ++space) {
    printf(" ");
    ++count;
}
while (k != 2 * i - 1) {
    if (count <= rows - 1) {
        printf("%d ", i + k);
        ++count;
    } else {
        ++count1;
        printf("%d ", (i + k - 2
* count1));
    }
}
```

```
    ++k;
}
count1 = count = k = 0;
printf("\n");
}
return 0;
}
```

## Example 8: Inverted full pyramid of \*

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

\* \* \*

\*

## C Program

```
#include <stdio.h>
```

```
int main() {
```

```
    int rows, i, j, space;
```

```
    printf("Enter the number  
of rows: ");
```

```
    scanf("%d", &rows);
```

```
    for (i = rows; i >= 1; --i) {
```

```
        for (space = 0; space <  
rows - i; ++space)
```

```
    printf(" ");
    for (j = i; j <= 2 * i - 1; ++j)
        printf("* ");
    for (j = 0; j < i - 1; ++j)
        printf("* ");
    printf("\n");
}
return 0;
}
```

