

1. C Program to print a star triangle.

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

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

```
int main()  
{  
    int n, c, k;  
  
    printf("Enter number of rows\n");  
    scanf("%d",&n);  
  
    for ( c = 1 ; c <= n ; c++ )  
    {  
        for( k = 1 ; k <= c ; k++ )  
            printf("*");  
  
        printf("\n");  
    }  
  
    return 0;  
}
```

2. C Program to print star pyramid.

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

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

```
int main()
```

```
{
```

```
    int row, c, n, temp;
```

```
    printf("Enter the number of rows in pyramid of stars you wish to see: ");  
    scanf("%d",&n);
```

```
    temp = n;
```

```
    for ( row = 1 ; row <= n ; row++ )
```

```
    {
```

```
        for ( c = 1 ; c < temp ; c++ )
```

```
            printf(" ");
```

```
        temp--;
```

```
        for ( c = 1 ; c <= 2*row - 1 ; c++ )
```

```
            printf("*");
```

```
        printf("\n");
```

```
    }
```

```
    return 0;
```

```
}
```

3. C Program to check a string for palindrome.

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

int main()
{
    char text[100];
    int begin, middle, end, length = 0;
    printf("Enter a text: ");
    gets(text);

    length=strlen(text);

    end = length - 1;
    middle = length/2;

    for( begin = 0 ; begin < middle ; begin++ )
    {
        if ( text[begin] != text[end] )
        {
            printf("Not a palindrome.\n");
            break;
        }
        end--;
    }
    if( begin == middle )
        printf("Palindrome.\n");

    return 0;
}
```

4. C Program to generate fibonacci series.

```
#include<stdio.h>

int main()
{
    int n, first = 0, second = 1, next, c;

    printf("Enter the number of terms\n");
    scanf("%d",&n);

    printf("First %d terms of Fibonacci series are :-\n",n);

    for ( c = 0 ; c < n ; c++ )
    {
        if ( c <= 1 )
            next = c;
        else
        {
            next = first + second;
            first = second;
            second = next;
        }
        printf("%d, ",next);
    }

    return 0;
}
```

5. C Program to print floyd's triangle

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

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

```
int main() {
    int rows, a, b, number = 1;

    printf("Number of rows of Floyd's triangle to print:");
    scanf("%d",&rows);

    for ( a = 1 ; a <= rows ; a++ ) {
        for ( b = 1 ; b <= a ; b++ ) {
            printf("%d ", number);
            number++;
        }
        printf("\n");
    }
    return 0;
}
```

6. C Program to print stars in diamond pattern.

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

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

```
int main() {
```

```
    int rows, a, b, space;
```

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

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

```
    //Or use scanf_s to prevent buffer overloading
```

```
    //scanf_s("%d", &rows, 1);
```

```
    // Print first half of the triangle.
```

```
    space = rows - 1;
```

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

```
        for ( a = 1 ; a <= space ; a++ )
```

```
            printf(" ");
```

```
        space--;
```

```
        for ( a = 1 ; a <= 2*b-1 ; a++ )
```

```
            printf("*");
```

```
        printf("\n");
```

```
    }
```

```
    // Print second half of the triangle.
```

```
    space = 1;
```

```
    for ( b = 1 ; b <= rows - 1 ; b++ ) {
```

```
        for ( a = 1 ; a <= space; a++ )
```

```
            printf(" ");
```

```
        space++;
```

```
        for ( a = 1 ; a <= 2*(rows-b)-1 ; a++ )
```

```
            printf("*");
```

```
        printf("\n");
```

```
    }
```

```
    return 0;
```

```
}
```