

1. Right-Angled Triangle of Stars

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

Input:

Enter the number of rows: 5

Output:

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

2. Right-Angled Triangle of Stars (Right Aligned)

```
void main() {
    int i, j, n;
    printf("Enter the number of rows: ");
    scanf("%d", &n);
    for(i = 1; i <= n; i++) {
        for(j = 1; j <= n - i; j++) {
            printf(" "); // Print spaces for alignment
        }
        for(j = 1; j <= i; j++) {
            printf("*"); // Print stars
        }
        printf("\n");
    }
}
```

Enter the number of rows: 5

```

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

3. Inverted Right-Angled Triangle of Stars

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

Input:

Enter the number of rows: 5

Output:

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

4.Pyramid Pattern of Stars

```
void main() {
    int i, j, n, space;
    printf("Enter the number of rows: ");
    scanf("%d", &n);
    for(i = 1; i <= n; i++) {
        for(space = 1; space <= n - i; space++)
            printf(" ");
        for(j = 1; j <= (2 * i - 1); j++)
            printf("* ");
        printf("\n");
    }
}
```

Input:

Enter the number of rows: 5

Output:

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

5.Diamond Pattern

```
void main() {
    int i, j, space, n;
    printf("Enter the number of rows: ");
    scanf("%d", &n);
    for(i = 1; i <= n; i++) {
        for(space = 1; space <= n - i; space++)
            printf(" ");
        for(j = 1; j <= (2 * i - 1); j++)
            printf("*");
        printf("\n");
    }
    for(i = n - 1; i >= 1; i--) {
        for(space = 1; space <= n - i; space++)
            printf(" ");
        for(j = 1; j <= (2 * i - 1); j++)
            printf("*");
        printf("\n");
    }
}
```

Input:

Enter the number of rows: 5

Output:

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

6. Hollow Square Pattern

```
void main() {
    int i, j, n;
    printf("Enter the side length of the square: ");
    scanf("%d", &n);
    for(i = 1; i <= n; i++) {
        for(j = 1; j <= n; j++) {
            if(i == 1 || i == n || j == 1 || j == n)
                printf("* ");
            else
                printf("  ");
        }
        printf("\n");
    }
}
```

Input:

Enter the side length of the square: 5

Output:

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

7. Right-Angled Number Triangle

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

Input:

Enter the number of rows: 5

Output:

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

8. Floyd's Triangle

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

Input:

Enter the number of rows: 5

Output:

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


9. Half Pyramid Pattern Using Numbers

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

Input:

Enter the number of rows: 5

Output:

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

10.Pascal's Triangle

```
void main() {
    int n, i, j, space, num = 1;
    printf("Enter the number of rows: ");
    scanf("%d", &n);
    for(i = 0; i < n; i++) {
        for(space = 1; space <= n - i; space++)
            printf(" ");
        for(j = 0; j <= i; j++) {
            if (j == 0 || i == 0)
                num = 1;
            else
                num = num * (i - j + 1) / j;
            printf("%4d", num);
        }
        printf("\n");
    }
}
```

Input:

Enter the number of rows: 5

Output:

```
      1
     1 1
    1 2 1
   1 3 3 1
  1 4 6 4 1
```

11. Full Pyramid of Numbers

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

Input:

Enter the number of rows: 5

Output:

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

12. Alphabet Right-Angled Triangle (Increasing)

```
void main() {
    int i, j, n;
    char ch = 'A';
    printf("Enter the number of rows: ");
    scanf("%d", &n);
    for(i = 1; i <= n; i++) {
        for(j = 1; j <= i; j++) {
            printf("%c ", ch);
            ch++; // Increment the character
        }
        printf("\n");
    }
}
```

Enter the number of rows: 5

```
A
B C
D E F
G H I J
K L M N O
```

13. Alphabet Pyramid

```
void main() {
    int i, j, n, space;
    printf("Enter the number of rows: ");
    scanf("%d", &n);
    for(i = 1; i <= n; i++) {
        for(space = 1; space <= n - i; space++) {
            printf(" ");
        }
        for(j = 1; j <= i; j++) {
            printf("%c ", 'A' + i - 1); // Print the same character across
the row
        }
        printf("\n");
    }
}
```

Input:

Enter the number of rows: 5

Output:

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

14. Binary Number Pattern

```
void main() {
    int i, j, n;
    printf("Enter the number of rows: ");
    scanf("%d", &n);
    for(i = 1; i <= n; i++) {
        for(j = 1; j <= i; j++) {
            printf("%d ", (i + j) % 2);
        }
        printf("\n");
    }
}
```

Input:

Enter the number of rows: 5

Output:

```
1
0 1
1 0 1
0 1 0 1
1 0 1 0 1
```