PATTERN BASED C QUERIES

Pattern 1 Right Half Pyramid

```
[] & & Share
                                                            Run
                                                                      Output
main.c
1 #include <stdio.h>
                                                                    Enter number of rows: 5
2 - int main() {
                                                                    * *
3 int i, j, n;
                                                                    * * *
4
    printf("Enter number of rows: ");
                                                                    * * * *
 5
      scanf("%d", &n);
                                                                    * * * * *
 6
7 -
     for(i = 1; i <= n; i++) {
        for(j = 1; j \le i; j++) {
 8 -
             printf("* ");
9
                                                                    === Code Execution Successful ===
10
         printf("\n");
11
12
13
     return 0;
14 }
```

Pattern 2 Left Half Pyramid

```
1 #include <stdio.h>
                                                                     Enter number of rows: 5
2 - int main() {
      int i, j, n;
3
                                                                        * * *
4
     printf("Enter number of rows: ");
                                                                      * * * *
5
      scanf("%d", &n);
6
                                                                     * * * * *
7 \cdot for(i = 1; i \le n; i++) {
8 +
        for(j = 1; j \le n - i; j++) {
9
           printf(" ");
                                                                     === Code Execution Successful ===
10 }
11 r for(j = 1; j <= i; j++) {
          printf("* ");
12
13
      printf("\n");
15
      }
16
      return 0;
17 }
```

Pattern3 Full Pyramid

```
#include <stdio.h>
                                                                      Enter number of rows: 5
:- int main() {
                                                                         ***
     int i, j, n;
     printf("Enter number of rows: ");
                                                                        ****
                                                                       *****
     scanf("%d", &n);
                                                                       ******
     for(i = 1; i \le n; i++) {
         for(j = 1; j \le n - i; j++) {
-
           printf(" ");
                                                                       === Code Execution Successful ===
         for(j = 1; j \le (2 * i - 1); j++) {
             printf("*");
         printf("\n");
     return 0;
}
```

Pattern4 Inverted Right Half Pyramid

```
[] ( oc Share
                                                            Run
                                                                      Output
main.c
1 #include <stdio.h>
                                                                     Enter number of rows: 5
2 - int main() {
                                                                     * * * *
3
      int i, j, n;
4
      printf("Enter number of rows: ");
      scanf("%d", &n);
5
 6
7 -
      for(i = n; i >= 1; i--) {
         for(j = 1; j <= i; j++) {
 8 -
9
           printf("* ");
                                                                     === Code Execution Successful ===
10
         printf("\n");
11
12
13
      return 0;
14 }
```

Pattern 5 Inverted Left Half Pyramid

```
[] ( of Share
                                                            Run
main.c
                                                                      Output
1 #include <stdio.h>
                                                                     Enter number of rows: 5
2 - int main() {
                                                                      * * * *
3
     int n;
     printf("Enter number of rows: ");
4
                                                                        * * *
5
      scanf("%d", &n);
7 +
      for(int i=n; i>=1; i--) {
8
9 +
          for(int j=1; j<=n-i; j++) {
                                                                     === Code Execution Successful ===
           printf(" ");
10
11
12
         for(int j=1; j<=i; j++) {
13 -
14
             printf("* ");
15
16
     printf("\n");
17
     }
18
      return 0;
19 }
```

Pattern 6 Inverted full

Pattern 7 RHOMBUS Pattern

```
[] ( c Share
                                                           Run
                                                                     Output
main.c
 1 #include <stdio.h>
                                                                    Enter number of rows: 5
 2 - int main() {
                                                                       ****
3
      int n;
                                                                      ****
       printf("Enter number of rows: ");
4
 5
      scanf("%d", &n);
 6
 7 -
       for(int i=1; i<=n; i++) {
8
9 -
           for(int j=1; j<=n-i; j++) {
                                                                    === Code Execution Successful ===
10
             printf(" ");
11
12
         for(int j=1; j<=n; j++) {
13 -
14
          printf("*");
15
      printf("\n");
16
17
     }
18
      return 0;
19 }
20
```

Pattern 8 Diamond pattern

```
#include <stdio.h>
                                                                                      Enter number of rows: 5
- int main(){
                                                                                        ***
     int n;
     printf("Enter number of rows: ");
                                                                                       ****
                                                                                       *****
     scanf("%d",&n);
     for(int i=1;i<=n;i++){
                                                                                      ******
         for(int j=1;j<=n-i;j++)
         printf(" ");
for(int j=1;j<=2*i-1;j++)</pre>
                                                                                       ****
                                                                                         ***
     printf("*");
         printf("\n");
     for(int i=n-1;i>=1;i--){
                                                                                      === Code Execution Successful ===
         for(int j=1;j<=n-i;j++)
         printf(" ");
for(int j=1;j<=2*i-1;j++)
         printf("*");
        printf("\n");
     return 0;
```

PATTERN 9 Hour Glass Pattern

```
#include <stdio.h>
                                                                                      Enter number of rows: 5
int main(){
                                                                                        *****
    int n;
    printf("Enter number of rows: ");
                                                                                        ****
    scanf("%d",&n);
                                                                                         ***
    for(int i=n;i>=1;i--)
                                                                                          *
                                                                                         ***
        for(int j=1;j<=n-i;j++)
                                                                                        ****
        printf(" ");
for(int j=1;j<=2*i-1;j++)
                                                                                        *****
                                                                                      ******
        printf("*");
        printf("\n");
                                                                                      === Code Execution Successful ===
    for(int i=2;i<=n;i++)
        for(int j=1;j<=n-i;j++)
printf(" ");</pre>
       for(int j=1;j<=2*i-1;j++)
printf("*");
       printf("\n");
    return 0;
```

Pattern 10 Hollow square

Pattern 11 Hollow Full Pyramid

```
#include <stdio.h>
                                                                              Enter number of rows: 5
int main(){
   int n;
   printf("Enter number of rows: ");
   scanf("%d",&n);
                                                                              *******
   for(int i=1;i<=n;i++)
       (int j=1;j<=n-i;j++)
                                                                              === Code Execution Successful ===
       printf(" ");
   for(int j=1;j<=2*i-1;j++){
          (j==1 || j==2*i-1 || i==n)
          printf("*");
          printf(" ");
      printf("\n");
   return 0;
```

Pattern 12 Hollow inverted full pyramid

```
#INCLUDE <Stalo.n>
int main(){
    int n;
    printf("Enter number of rows: ");
    scanf("%d",&n);
    for(int i=n;i>=1;i--)
    {
        for(int j=1;j<=n-i;j++)
            printf(" ");
        for(int j=1;j<=2*i-1 || i==n)
            printf("*");
        else
        printf(" ");
    }
    printf("\n");
}

return 0;
}
```

Pattern 13 Hollow Diamond

```
#include <stdio.h>
                                                                                Enter number of rows: 5
int main(){
   int n;
   printf("Enter number of rows: ");
   scanf("%d",&n);
   for(int i=1;i<=n;i++){
      for(int j=1;j<=n-i;j++)
       printf(" ");
       for(int j=1;j<=2*i-1;j++){
          if(j==1 || j==2*i-1)
         printf("*");
           else
      printf(" ");
                                                                                === Code Execution Successful ==
       printf("\n");
   }
   for(int i=n-1;i>=1;i--){
       for(int j=1;j<=n-i;j++) printf(" ");</pre>
       for(int j=1; j<=2*i-1; j++){
           if(j==1 || j==2*i-1) printf("*");
           else printf(" ");
       printf("\n");
   }
   return 0.
```

Pattern 14 Floyd's Triangle

```
#include <stdio.h>
                                                                                  Enter number of rows: 5
 int main()
{
                                                                                  2 3
    int n, num=1:
                                                                                  4 5 6
     printf("Enter number of rows: ");
                                                                                  7 8 9 10
     scanf("%d",&n);
                                                                                  11 12 13 14 15
     for(int i=1;i<=n;i++)
                                                                                  === Code Execution Successful ===
         for(int j=1;j<=i;j++)</pre>
            printf("%d ", num++);
        printf("\n");
     return 0:
```

Pattern15 Hollow Hour glass pattern

```
Enter number of rows: 5
int main(){
                                                                                  ******
    int n;
    printf("Enter number of rows: ");
     scanf("%d",&n);
    for(int i=n;i>=1;i--){
        for(int j=1;j<=n-i;j++) printf(" ");</pre>
         for(int j=1;j<=2*i-1;j++){
           if(j==1 || j==2*i-1 || i==n) printf("*");
            else printf(" ");
        printf("\n");
                                                                                  === Code Execution Successful ===
     for(int i=2;i<=n;i++){
        for(int j=1;j<=n-i;j++) printf(" ");</pre>
         for(int j=1;j<=2*i-1;j++){
           if(j==1 || j==2*i-1 || i==n) printf("*");
            else printf(" ");
        printf("\n");
     return 0;
```

Pattern 16 Pascal's triangle

```
#include <stdio.h>
                                                                               Enter number of rows: 5
int fact(int n){
                                                                                   1
   int f=1;
                                                                                   1 1
    for(int i=1;i<=n;i++) f*=i;
                                                                                 1 2 1
   return f;
                                                                                 1 3 3 1
                                                                                1 4 6 4 1
int main(){
   int n:
    printf("Enter number of rows: ");
                                                                               === Code Execution Successful ===
    scanf("%d",&n);
    for(int i=0;i<n;i++){
        for(int j=0;j<n-i;j++)</pre>
    printf(" ");
       for(int j=0;j<=i;j++)
          printf("%d ", fact(i)/(fact(j)*fact(i-j)));
      printf("\n");
   return 0;
```

PATTERN 17

```
#include <stdio.h>
                                                                               12
                                                                               123
int main() {
                                                                               1234
   int i, j, n=10;
                                                                               12345
    for(i = 1; i<= n; i++)
                                                                               123456
                                                                               1234567
       for(j = 1; j <= i; j++)
                                                                               12345678
       {
   printf("%d" , j);
                                                                               123456789
                                                                               12345678910
printf("\n");
                                                                               === Code Execution Successful ===
   return 0;
```

Pattern 18

```
#include <stdio.h>
                                                                                1 2
int main() {
   int i, j, n = 6, k;
                                                                                1 2 3
                                                                               1 2 3 4
    for(i = 1; i <= n; i++) {
      for(k = 1; k <= n - i; k++)
                                                                              1 2 3 4 5
                                                                             1 2 3 4 5 6
          printf(" ");
       for(j = 1; j <= i; j++)
                                                                              === Code Execution Successful ===
       printf("%d", j);
}
      printf("\n");
    return 0;
```

Pattern 19

```
#include <stdio.h>
                                                                                 10
int main()
                                                                                 1010
                                                                                101010
   int i, j, k, n = 6;
                                                                              10101010
   for(i = 1; i <= n; i++)
                                                                              1010101010
                                                                             101010101010
       for(k = 1; k <= n - i; k++)
       {
       printf(" ");
                                                                             === Code Execution Successful ===
     for(j = 1; j \le i * 2; j++) {
      printf("%d", j % 2);
      printf("\n");
   return 0;
```

Pattern 20

```
main.c [] ( | a Share Run
                                                                  Output
 1 #include <stdio.h>
                                                                  55555
 2 int main()
                                                                  4444
 3 - {
                                                                  333
 4
       int i, j, n = 5;
                                                                  22
 5
       for(i = n; i >= 1; i--)
                                                                  1
 6+
          for(j = 1; j <= i; j++)
 7
     printf("%d", i);
printf("\n");
}
8 -
                                                                  === Code Execution Successful ===
 9
 10
 11
 12
 13
      return 0;
14 }
```

Pattern 21

```
#include <stdio.h>
                                                                                                                                                 1212
int main() {
                                                                                                                                                 123123
     int i, j, n = 6;
for (i = 1; i <= n; i++) {
    for (j = 1; j <= i; j++) {
        printf("%d", j);
    }</pre>
                                                                                                                                                 12341234
                                                                                                                                                 1234512345
                                                                                                                                                123456123456
1234512345
                                                                                                                                                 12341234
           for (j = 1; j <= i; j++) {
    printf("%d", j);
}</pre>
                                                                                                                                                 123123
                                                                                                                                                 1212
            printf("\n");
                                                                                                                                                 === Code Execution Successful ===
for (i = n - 1; i >= 1; i--) {
    for (j = 1; j <= i; j++) {
        printf("%d", j);
}</pre>
            for (j = 1; j <= i; j++) {
    printf("%d", j);</pre>
            printf("\n");
      return 0;
```