41. Diamond of Numbers

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

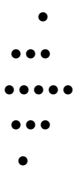
```
#include<stdio.h>
#include<conio.h>

void main()
{
   int i, j, k;
   clrscr();

   for (i = 1; i <= 5; i++)
   {
      for (j = i; j < 5; j++)
      {
         printf(" ");
      }
      for (k = 1; k < (i * 2); k++)
      {
         printf("%d", i);
      }
      printf("\n");
   }

   for (i = 4; i >= 1; i--)
   {
      for (j = 5; j > i; j--)
      {
         printf(" ");
      }
      for (k = 1; k < (i * 2); k++)
      {
         printf("%d", i);
      }
      printf("\n");
   }
   getch();
}
```

42. Diamond Pattern



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

void main()
{

   int n, c, k, space = 1;
   clrscr();

   printf("Enter number of rows : ");
   scanf("%d", &n);

   space = n - 1;

   for (k = 1; k <= n; k++)
   {

      for (c = 1; c <= space; c++)
         printf(" ");

      space--;

      for (c = 1; c <= 2 * k - 1; c++)
         printf("•");

      printf("\n");
   }

   space = 1;

   for (k = 1; k <= n - 1; k++)
   {

      for (c = 1; c <= space; c++)
         printf(" ");

      space++;

      for (c = 1; c <= 2 * (n - k) - 1; c++)
         printf("•");

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

```
   getch();
}
```

43. Diamond star outline

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

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

void main()
{
   int i, j;
   clrscr();

   for (i = 1; i <= 5; i++)
   {
      for (j = 5; j > i; j--)
      {
         printf(" ");
      }

      printf("*");

      for (j = 1; j < (i - 1) * 2; j++)
      {
         printf(" ");
      }

      if (i == 1)
      {
         printf("\n");
      }

      else
      { printf("*\n"); }
   }

   for (i = 4; i >= 1; i--)
   {
      for (j = 5; j > i; j--)
      {
         printf(" ");
```

```
      }

      printf("*");

      for (j = 1; j < (i - 1) * 2; j++)
      {
         printf(" ");
      }

      if (i == 1)
      {
         printf("\n");
      }
      else
      { printf("*\n"); }
   }

   getch();
}
```

44. Hollow Diamond

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

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

void main()
{
   int i, j, k;
   clrscr();

   for (i = 1; i <= 5; i++)
   {
      for (j = 1; j <= 6 - i; j++)
      {
         printf("*");
      }

      for (k = 1; k < i; k++)
      {
         printf("  ");
      }
```

```
      for (j = 1; j <= 6 - i; j++)
      {
         printf("*");
      }

      printf("\n");
   }

   for (i = 2; i <= 5; i++)
   {
      for (j = 1; j <= i; j++)
      {
         printf("*");
      }

      for (k = 1; k <= 5 - i; k++)
      {
         printf("  ");
      }

      for (j = 1; j <= i; j++)
      {
         printf("*");
      }

      printf("\n");
   }

   getch();
}
```

45. Hollow Square

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

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

void main()
{
   int i, j, n;
   clrscr();

   printf("Enter value of n : ");
   scanf("%d", &n);
   printf("\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");
   }
   getch();
}
```

46. Hourglass Pattern

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

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

void main()
{
   int num, n, r, c, sp;
   clrscr();

   printf("Enter number of rows: ");
   scanf("%d", &num);
   printf("\n");

   n = num;

   for (r = 1; r <= num; r++)
   {
      for (sp = 1; sp <= r; sp++)
         printf(" ");

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

```
            printf("*");

        for (c = num - r; c >= 1; c--)
            printf("*");

        n--;
        printf("\n");
    }

    for (r = 2; r <= num; r++)
    {
        for (sp = num - r + 1; sp >= 1; sp--)
            printf(" ");

        for (c = 1; c <= r; c++)
            printf("*");

        for (c = r - 1; c >= 1; c--)
            printf("*");

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

47. Nested Star-Hash Pyramid

```
#####*#####
####*#*####
###*###*###
##*#####*##
#*#######*#
*#########*
```

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

void main()
{
    int n = 5, r, c;
    clrscr();

    for (r = 1; r <= 6; r++, n--)
    {
        // first pyramid
        for (c = 1; c <= n; c++)
        {
            printf(" #");
        }
```

```
      // second pyramid
      for (c = 1; c <= r; c++)
      {
         if (c == 1)
         {
            printf(" *");
         }
         else
         {
            printf(" #");
         }
      }

      // third pyramid
      for (c = r; c > 1; c--)
      {
         if (c == 2)
         {
            printf(" *");
         }
         else
         {
            printf(" #");
         }
      }

      // fourth pyramid
      for (c = n; c >= 1; c--)
      {
         printf(" #");
      }

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

48. Reverse star pyramid

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

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

void main()
{
```

```
   int i, j, k;
   clrscr();

   for (i = 5; i >= 1; i--)
   {
      for (j = 5; j > i; j--)
      {
         printf(" ");
      }

      for (k = 1; k < (i * 2); k++)
      {
         printf("* ");
      }

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

49. Rhombus Pattern

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

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

void main()
{
   int num, r, c, sp, n;
   clrscr();

   printf("Enter the number : ");
   scanf("%d", &num);

   for (r = 1; r <= num; r++)
   {
      for (sp = num - r; sp >= 1; sp--)
         printf(" ");

      printf("%d", r);
```

```
      for (sp = r * 2; sp > 1; sp--)
         printf(" ");

      printf("%d", r);
      printf("\n");
   }

   for (r = 1, n = num - 1; r < num; r++, n--)
   {
      for (sp = r; sp >= 1; sp--)
         printf(" ");

      printf("%d", n);

      for (sp = n * 2; sp > 1; sp--)
         printf(" ");

      printf("%d", n);
      printf("\n");
   }
   getch();
}
```

50. Square kite pattern

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

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

void main()
{
   int i, j, k;
   clrscr();

   for (i = 1; i <= 4; i++)
   {
      for (j = 4; j >= (i - 1) * 2 - 1; j--)
         printf(" ");
      printf("%d", i);
      for (j = 2; j <= (i - 1) * 4; j++)
         printf(" ");
      if (i > 1)
         printf("%d", i);
```

```
        printf("\n");
    }
    for (i = 3; i >= 1; i--)
    {
        for (j = 4; j >= (i - 1) * 2 - 1; j--)
            printf(" ");
        printf("%d", i);
        for (j = 2; j <= (i - 1) * 4; j++)
            printf(" ");
        if (i > 1)
            printf("%d", i);
        printf("\n");
    }
    getch();
}
```

Schmick