Advance Patterns

```
public class prac1_advancedpatterns {
    // write a program to print inverted half pyramid

    public static void  IHF(int n){
        for(int i=1;i<=n;i++){
            //outer loop
            for(int j=1;j<=n-i;j++){
                //spaces
                System.out.print(" ");
            }
            for(int j=1;j<=i;j++){
                // stars
                System.out.print("*");
            }
            System.out.println();// new line
        }
    }

    public static void main(String args[]){
        int n=5;
        IHF(n);
    }
}

Output:
    *
   **
  ***
 ****
*****

--------------------------------------------------------------------------------
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public class prac1_advancedpatterns {
    // write a program to print Floids triangle

    public static void  floidstriangle(int n){
        int count=1;
        for(int i=1;i<=n;i++){
```

```
            //outer loop
              for( int j=1;j<=i;j++){
                System.out.print(count);
                count++;
            }
            System.out.println();// new line
        }
    }

    public static void main(String args[]){
        int n=5;
        floidstriangle(n);
    }
}
Output:
1
23
456
78910

--------------------------------------------------------------------------------
---------------------------------------

public class prac1_advancedpatterns {
    // write a program to print 0-1 triangle

    public static void  triangle01(int n){
        for(int i=1;i<=n;i++){
            for(int j=1;j<=i;j++){
                if((i+j)%2==0){
                    System.out.print("1");
                }
                else{
                    System.out.print("0");
                }
            }
            System.out.println();
        }

    }

    public static void main(String args[]){
        int n=5;
        triangle01(n);
    }
```

```
}

Output:
1
01
101
0101
10101
-----------------------------------------------------------------------------------
---------------------------------------

public class prac1_advancedpatterns {
    // write a program to printButterfly pattern

    public static void  Butterflypattern(int n){
        // first half
        // i(stars)+ 2*n-i(spaces )+i(stars)
        for(int  i=1;i<=n;i++){
            //stars
            for(int j=1;j<=i;j++){
                System.out.print("*");
            }
            //spaces
            for(int j=1;j<=2*(n-i);j++){
                System.out.print(" ");
            }
            //stars
            for(int j=1;j<=i;j++){
                System.out.print("*");
            }
            System.out.println();

        }
        // second  half
        // i(stars)+ 2*n-i(spaces )+i(stars)
        for(int  i=n;i>=1;i--){
            //stars
            for(int j=1;j<=i;j++){
                System.out.print("*");
            }
            //spaces
            for(int j=1;j<=2*(n-i);j++){
                System.out.print(" ");
            }
            //stars
```

```
            for(int j=1;j<=i;j++){
                System.out.print("*");
            }
            System.out.println();

        }

        }



    public static void main(String args[]){
        int n=10;
        Butterflypattern(n);
    }
}



Output:
*                  *
**                **
***              ***
****            ****
*****          *****
******        ******
*******      *******
********    ********
*********  *********
**********  **********
**********  **********
*********  *********
********    ********
*******      *******
******        ******
*****          *****
****            ****
***              ***
**                **
*                  *

-------------------------------------------------------------------------------
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public class prac1_advancedpatterns {
    // write a program to print solod rhombus
```

```
    public static void  solidrhombus(int n){
    for(int i=1;i<=n;i++){
           //spaces
           {
            for(int j=1;j<=n-i;j++){
                System.out.print(" ");
            }
            //stars till n
            for(int j=1;j<=n;j++){
                System.out.print("*");
            }
           }
           System.out.println();
    }
    }
    public static void main(String args[]){
        int n=5;
        solidrhombus(n);
    }
}
```

Output:

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

```
public class prac1_advancedpatterns {
    // write a program to print hollowrhombus

    public static void  hollowrhombus(int n){
    for(int i=1;i<=n;i++){
        //spaces
        for(int j=1;j<=n-i;j++){
            System.out.print(" ");
        }
        for(int j=1;j<=n;j++){
            if(i==1||i==n||j==1||j==n){
                System.out.print("*");
            }
```

```
            else{
                System.out.print(" ");
            }
        }

           System.out.println();
    }
    }
    public static void main(String args[]){
        int n=5;
        hollowrhombus(n);
    }
}

Output:
    *****
   *   *
  *   *
 *   *
*****
--------------------------------------------------------------------------------
--------------------

public class prac1_advancedpatterns {
    // write a program to print diamond

    public static void  diamond(int n){
        //firsthalf
    for(int i=1;i<=n;i++){
        //spaces
        for(int j=1;j<=n-i;j++){
            System.out.print(" ");
        }//stars
        for(int j=1;j<=2*i-1;j++){
            System.out.print("*");
        }  System.out.println();
        }

         //fsecond half
    for(int i=n;i>=1;i--){
        //spaces
        for(int j=1;j<=n-i;j++){
            System.out.print(" ");
        }//stars
        for(int j=1;j<=2*i-1;j++){
```

```
            System.out.print("*");
        }
        System.out.println();
        }
    }

    public static void main(String args[]){
        int n=7;
       diamond(n);
    }
}
Output:
      *
     ***
    *****
   *******
  *********
 ***********
*************
*************
 ***********
  *********
   *******
    *****
     ***
      *


--------------------------------------------------------------------------------
---------------------------------

public class prac1_advancedpatterns {
    // write a program to print diamond

    public static void  numberpyramid(int n){
       for(int i=1;i<=n;i++){
        for(int j=1;j<=n-i;j++){//spaces
           System.out.print(" ");
        }
        //stars
        for(int j=1;j<=i;j++){
            System.out.print(i+" ");
        }
        System.out.println();
       }
```

```
    }

    public static void main(String args[]){
        int n=7;
        numberpyramid(n);
    }
}
Output:
      1
     2 2
    3 3 3
   4 4 4 4
  5 5 5 5 5
 6 6 6 6 6 6
7 7 7 7 7 7 7

--------------------------------------------------------------------------------
----------------------------------------
public class prac1_advancedpatterns {
    // write a program to print palindrome pattern

    public static void  palindromePATTERN(int n){
       for(int i=1;i<=n;i++){
        for(int j=1;j<=n-i;j++){//spaces
           System.out.print(" ");
        }
        //desending order
        for(int j=i;j>=1;j--){
            System.out.print(j);
        }
        //ascending order
        for(int j=2;j<=i;j++){
            System.out.print(j);
        }
        System.out.println();
       }

    }

    public static void main(String args[]){
        int n=7;
       palindromePATTERN(n);
    }
}
```

```
Output:
      1
     212
    32123
   4321234
  543212345
 65432123456
7654321234567
```