# Pattern Programming

**Q1.WAP to print Alphabets A,B,C,D,E,F,G,H using pattern programming logic.**

```
package pw_01;

public class a5_assignments {
   public static void main(String[] args) {
       int n = 10;

       System.out.println(" Print A      ############################");
       for (int i = 0; i < n; i++) {
           for (int j = 0; j < n; j++) {
               if (i == 0 && j > 0 && j < (n - 1) / 2 || j == 0 && i > 0 || i == (n
- 1) / 2 && j < (n - 2) / 2 || j == (n - 1) / 2 && i > 0) {
                   System.out.print("*");
               } else {
                   System.out.print(" ");
               }
           }
           System.out.println();
       }
       System.out.println(" Print B         ##########################");

       for (int i = 0; i < n; i++) {
           for (int j = 0; j < n; j++) {
               if (i == 0 && j > 2 && j <= n - 4 || i == 1 && j == n - 3 || i == 2
&& j == n - 3 || i == 3 && j == n - 5 || i == 4 && j == n - 6 || i == 5 && j == n -
7 || j == 2 || i == 6 && j == n - 6 || i == 7 && j == n - 4 || i == 8 && j == n - 4
|| i == 9 && j == n - 5) {
                   System.out.print("*");
               } else {
                   System.out.print(" ");
               }
           }
           System.out.println();
       }

       System.out.println("Print C            ############################c");
       for (int i = 0; i < n; i++) {  //C
           for (int j = 0; j < n; j++) {
               if (i == n - 1 && j > 2 || j == 0 && i > 0 && i < n - 1 || i == 0 &&
j > 2) {
                   System.out.print("*");
               } else {
                   System.out.print(" ");
               }
           }
```

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

        System.out.println("print D           ##############################3");
        for (int i = 0; i < n; i++) {
            for (int j = 0; j < n; j++) {
                if (j == 1 || i == n - 1 || j == n - 1 || i == 0) {
                    System.out.print("*");
                } else {
                    System.out.print(" ");
                }

            }
            System.out.println();
        }
        System.out.println("print E              ############################");
        for (int i = 0; i < n; i++) {
            for (int j = 0; j < n; j++) {
                if (i == 0 || j == 0 || i == n - 1 || i == (n - 1) / 2) {
                    System.out.print("*");
                } else {
                    System.out.print(" ");
                }
            }
            System.out.println();
        }
        System.out.println("print F             ##########################");
        for (int i = 0; i < n; i++) {
            for (int j = 0; j < n; j++) {
                if (j == 0 || i == 0 || i == (n - 1) / 2) {
                    System.out.print("*");
                } else {
                    System.out.print(" ");
                }
            }
            System.out.println();
        }
        System.out.println("print G           ############################");
        for (int i = 0; i < n; i++) {
            for (int j = 0; j < n; j++) {
                if (i == 0 && j > 1 || j == 0 && i > 0 && i < n - 1 || i == n - 1 &&
j > 0 || i == n - 2 && j == n - 1 || i == n - 3 && j == n - 1 || i == n - 4 && j ==
n - 1 || i == n - 5 && j == n - 1 || i == n - 6 && j > n - 3) {
                    System.out.print("*");
                } else {
                    System.out.print(" ");
                }
            }
            System.out.println();
        }
        System.out.println("print H           ############################");
        for (int i = 0; i < n; i++) {
            for (int j = 0; j < n; j++) {
                if (i == 0 || i == n - 1 || j == (n - 1) / 2 + 4) {
                    System.out.print("*");
                }
                System.out.print(" ");
```

```
        }

        System.out.println();
```

## Q3.WAP to print

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

```
      }
      System.out.println("DIAGRAM            ############################");
      for (int i = 0; i < n; i++) {
          for (int j = 0; j < n; j++) {
              if (i == 0 || j == 0 || i + j <= (n - 1) / 2 || i == 0 && j > (n -
1) / 2 || j == n - 1 || j - i > (n - 1) / 2 || i == n - 1) {
                  System.out.print("*");
              } else {
                  System.out.print(" ");
              }
          }
          System.out.println();


      }
```

## Q2.WAP a  program to print triangle using star pattern programming language.

```
      System.out.println("TRIANGLE          ################################3");

      for (int i = 0; i < n; i++) {
          for (int j = 0; j < n; j++) {
```

```
                if (i == 0 || i + j <= (n - 1) / 2 || j - i > (n - 1) / 2 || i == (n
- 1) / 2) {
                    System.out.print("*");
                } else {
                    System.out.print(" ");
                }
            }
            System.out.println();
        }
```

## Q4.WAP to print PW SKILLS  using pattern programming language .

```
        System.out.println("PW SKILLS");
        for (int i = 0; i < n; i++) {
            for (int j = 0; j < n; j++) {
                if (j == 0 || i ==0&& j<n-5|| i == 1 && j == 6 || i == 2 && j == 7
|| i == 3 && j == 6 || i == 4 && j == 5 || i == 5 && j == 3) {
                    System.out.print("*");
                } else {
                    System.out.print(" ");
                }
            }
            System.out.print("  ");
            for (int j = 0; j < n; j++) {
                if (i == n - 1 && j <n-1|| j == 0 && i < n - 1||j==n-1 &&
i<n-1||j==(n-1)/2) {
                    System.out.print("*");
                } else {
                    System.out.print(" ");
                }
            }
            System.out.print("             ");

            for (int j = 0; j < n; j++) {
                if (j == 0 && i < (n - 1) / 2 || i == (n - 1) / 2 || i == 0 || j ==
n - 1 && i > (n - 1) / 2 || i == n - 1) {
                    System.out.print("*");
                } else {
                    System.out.print(" ");
                }
            }
            System.out.print("   ");
            for (int j = 0; j < n; j++) {
                if (j == 0 || j == 1 && i == 4 && i == (n - 1) / 2 || i == 3 && j ==
2 || i == 2 && j == 3 || i == 1 && j == 4 || i == 0 && j == 5 || i == 5 && j == 2
|| i == 6 && j == 3 || i == 7 && j == 4 || i == 8 && j == 5 || i == n - 1 && j ==
6) {
                    System.out.print("*");
                } else {
                    System.out.print(" ");
                }
            }
            System.out.print("  ");
            for (int j = 0; j < n; j++) {
                if (i == 0 || i == n - 1 || j == (n - 1) / 2) {
```

```
                System.out.print("*");
            } else {
                System.out.print(" ");
            }
        }
        System.out.print("  ");
        for (int j = 0; j < n; j++) {
            if (j == 0 || i == n - 1) {
                System.out.print("*");
            } else {
                System.out.print(" ");
            }
        }
        System.out.print("  ");
        for (int j = 0; j < n; j++) {
            if (j == 0 || i == n - 1) {
                System.out.print("*");
            } else {
                System.out.print(" ");
            }
        }
        System.out.print("  ");
        for (int j = 0; j < n; j++) {
            if (j == 0 && i < (n - 1) / 2 || j == n - 1 && i > (n - 1) / 2 || i
== 0 || i == n - 1 || i == (n - 1) / 2) {
                System.out.print("*");
            } else {
                System.out.print(" ");
            }
        }
        System.out.println();
    }
```

## Q5.WAP to program to print your full name using pattern programming language.

```
    System.out.println("ADITYA                  ############################");
    for (int i = 0; i < n; i++) {
        for (int j = 0; j < n; j++) {
            if (i == 0 && j>1&& j<n-2|| j == 0 &&i>0|| i == (n - 1) / 2 || j ==
n - 1&&i>0) { //B
                System.out.print("*");
            } else {
                System.out.print(" ");
            }
        }
        System.out.print(" ");
        for(int j =0; j<n; j++){
            if( j==2 ||i==n-1|| j==n-1||i==0){
                System.out.print("*");
            }
            else{
                System.out.print(" ");
            }

        }
```

```
            System.out.print("  ");
            for(int j =0; j<n; j++){
                if( i==0 ||i==n-1|| j==(n-1)/2){
                    System.out.print("*");
                }
                else{
                    System.out.print(" ");
                }

            }
            System.out.print("  ");
            for(int j=0; j<n; j++){
                if(i==0 || j== (n-1)/2){
                    System.out.print("*");
                }else{
                    System.out.print(" ");
                }

            }
            System.out.print(" ");
            for(int j =0; j<n; j++){
                if(j==(n-1)/2&&i>(n-1)/2 || i==4&&j==6 ||
i==3&&j==7||i==2&&j==8||i==1&&j==9||i==0&&j==n-1||i==4&&j==3||i==3&&j==2||i==2&&j==
1||i==1&&j==0||i==0&&j==0){
                    System.out.print("*");
                }else{
                    System.out.print(" ");
                }
            }
            System.out.println();
        }
    }
}
```

# Output -

```
half A########################################
 ***
*  *
*  *
*  *
*****
*  *
*  *
*  *
*  *
*  *
```

B#########################################################################
 *****
 *   *
 *   *
 * *
 **
 **
 * *
 *  *
 *  *
 * *
C#################################################c
  *******
*
*
*
*
*
*
*
*
  *******
D#################################################3
*******
 *     *
 *     *
 *     *
 *     *
 *     *
 *     *
 *     *
 *     *
*******
E#########################################################
**********
*
*
*
**********
*
*
*
*
**********
F#########################################################
**********
*
*
*
**********
*
*
*
*
*

G##################################################
 ********
*
*
*
*     **
*     *
*     *
*     *
*     *
 *********
H##################################################
* * * * * * * * * *
      *
      *
      *
      *
      *
      *
      *
      *
* * * * * * * * * *
DIAGRAM############################################
**********
****  ****
***   ***
**     **
*       *
*       *
*       *
*       *
*       *
**********
TRIANGLE#########################################3
**********
**** ****
***   ***
**    **
**********

PW SKILLS
*****    *  *  *       *********  *   *  **********  *       *       **********
*   *   *  *  *       *          *  *       *      *       *       *
*    *  *  *  *       *          * *        *      *       *       *
*   *   *  *  *       *          **         *      *       *       *
*  *    *  *  *       **********  **        *      *       *        **********
* *     *  *  *              *  * **        *      *       *                 *
*       *  *  *              *  * * *       *      *       *                 *
*       *  *  *              *  *  *       *      *       *                 *
*       *  *  *              *  *   *      *      *       *                 *
*       *********       **********  *   *   ********** ********** ********** **********

```
ADITY##################################################
  ******  ********** ********** **********  *      *
*     *  *       *   *         *       *      *
*     *  *       *   *         *       *    *
*     *  *       *   *         *       *  *
********  *       *   *         *         *
*     *  *       *   *         *         *
*     *  *       *   *         *         *
*     *  *       *   *         *         *
*     *  *       *   *         *         *
*     * ********** **********      *         *

Process finished with exit code 0
```