1. Write a Program(WAP) to print Alphabets A, B, C, D, E, F, G, H, using pattern programming logic.

Ans:

```
import java.util.Scanner;

public class ABCDEFGH_pattern {
   public static void main(String[] args) {
        Scanner scan = new Scanner(System.in);
        int n = scan.nextInt();
        // n >=5
        for(int i=0;i<n;++i){
            // A
            for(int j=0;j<n;++j){
                if((i==0 && j>0 && j<(n-1)/2) || (j==(n-1)/2 &&
i>0) || (j==0 && i>0) || (i==(n-1)/2) && j<(n-1)/2){
                        System.out.print("* ");
                    }
                else{
                    System.out.print("  ");
                }
            }
            // B
            for(int j=0;j<n;++j){
                if((j==0) || (i==0 && j<(n-1)/2) || (i==(n-1) &&
j<(n-1)/2) || (j==(n-1)/2 && i>0 && i<(n-1)) ||
                    (i==(n-1)/2 && j<(n-1)/2)){
                        System.out.print("* ");
                    }
                else{
                    System.out.print("  ");
                }
            }
```

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

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

```
}
```

2. Write a program to print triangle using star pattern programming logic.
Ans:

```
import java.util.Scanner;

public class Triangle_pattern {
   public static void main(String[] args) {
       Scanner scan = new Scanner(System.in);
       int n = scan.nextInt();
       for(int i=0;i<n;++i){
           for(int j=0;j<n;++j){
               if(j==0 || i==n-1 || (i==j)){
                       System.out.print("* ");
                   }
               else{
                   System.out.print("  ");
               }
           }
           System.out.println();
       }
   }
}
```

3. WAP to print pattern given in assignment question.

```
import java.util.Scanner;

public class Trapezium_pattern {
   public static void main(String[] args) {
       Scanner scan = new Scanner(System.in);
       int n = scan.nextInt();
       // n must be odd to get the desired pattern
       for(int i=0;i<n;++i){
```

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

4. Write a program to print PW SKILLS using pattern programming logic.
Ans:

```
import java.util.Scanner;

public class PWSKILLS_pattern {
    public static void main(String[] args) {
        Scanner scan = new Scanner(System.in);
        int n = scan.nextInt();
        for(int i=0;i<n;++i){
            // P
            for(int j=0;j<n;++j){
                if(j==0 || (i==0 && j<=(n-1)/2) || (i==(n-1)/2 &&
j<=(n-1)/2) || (j==(n-1)/2 && i<=(n-1)/2)){
                    System.out.print("* ");
                    }
                else{
                    System.out.print("  ");
                }
```

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

```
            if(j==0 || (i+j==(n-1)/2) || (i-j==(n-1)/2)){
                System.out.print("* ");
            }
            else{
                System.out.print("  ");
            }
        }
        // I
        for(int j=0;j<n;++j){
            if(j==(n-1)/4){
                System.out.print("* ");
            }
            else{
                System.out.print("  ");
            }
        }
        // L
        for(int j=0;j<n;++j){
            if(j==0 || (i==n-1 && j<=(n-1)/2)){
                System.out.print("* ");
            }
            else{
                System.out.print("  ");
            }
        }
        // L
        for(int j=0;j<n;++j){
            if(j==0 || (i==n-1 && j<=(n-1)/2)){
                System.out.print("* ");
            }
            else{
                System.out.print("  ");
```

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

5. Write a program to print your Full Name using pattern programming logic.
Ans:

```
import java.util.Scanner;
public class FullName_pattern {
   public static void main(String[] args) {
        Scanner scan = new Scanner(System.in);
        int n = scan.nextInt();
        // Full Name Printed - NAGENDRA K UDUPA(for n=5)
        for(int i=0;i<n;++i){
            // N
            for(int j=0;j<n;++j){
                if(j==0 || j==(n-1) || i==j){
                    System.out.print("* ");
                }
```

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

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

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

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

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