Pattern Programming_Assignment

Question 1: -**Write a Program to print alphabets A,B,C,D,E,F,G,H using patterns programming logic.**

Solution: -**package** hello;

```
//Question number 1:-

class pattern_letter {

	public void print_A(int number) {

		for (int i = 0; i < number; i++) {

			for (int j = 0; j < number; j++) {

				if (i == 0 && j > 0 && j < ((number - 1) / 2) || j == 0 && i > 0

					|| i == ((number - 1) / 2) && j <= ((number - 1) / 2) || j
== (number - 1) / 2 && i > 0) {

					System.out.print("*");

				} else {

					System.out.print(" ");

				}

			}

			System.out.println();

		}

	}

	public void print_B(int number) {

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

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

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

```
                    System.out.print("*");
                } else {
                    System.out.print(" ");
                }
            }
            System.out.println();
        }
    }
    public void print_F(int number) {
        for (int i = 0; i < number; i++) {
            for (int j = 0; j < number; j++) {
                if (i == 0 || j == 0 || i == (number - 1) / 2 && j != number - 1) {
                    System.out.print("*");
                } else {
                    System.out.print(" ");
                }
            }
            System.out.println();
        }
    }
    public void print_G(int number) {
        for (int i = 0; i < number; i++) {
```

```
                for (int j = 0; j < number; j++) {
                        if (i == 0 && j > 0 && j < (number - 1) / 2
                                        || j == 0 && i > 0 && i < (number - 1)
                                        || i == 1 && j == (number - 1) / 2
                                        || i == (number - 3) && j == (((number - 1) / 2) - 1 )
                                                        || i == (number - 3) && j ==
(((number - 1) / 2) )
                                        || i == (number - 2) && j == (number - 1) / 2
                                        || i == (number - 1) && j > 0 && j < (number - 1) / 2) {
                                System.out.print("*");
                        } else {
                                System.out.print(" ");
                        }
                }
                System.out.println();
        }
    }
    public void print_H(int number) {
        for (int i = 0; i < number; i++) {
                for (int j = 0; j < number; j++) {
                        if (                    j == 0

                                        || i == (number - 1)/2
```

```
                                        || j == (number - 1)) {
                                    System.out.print("*");
                                } else {
                                    System.out.print(" ");
                                }
                            }
                            System.out.println();
                        }
                    }
}
public class pattern {
    public static void main(String[] args) {
        pattern_letter pltr = new pattern_letter();
        System.out.println("print A");
        pltr.print_A(12);
        System.out.println("print B");
        pltr.print_B(13);
        System.out.println("print C");
        pltr.print_C(11);
        System.out.println("print D");
        pltr.print_D(9);
        System.out.println("print E");
```

```
                pltr.print_E(7);

                System.out.println("print F");

                pltr.print_F(7);

                System.out.println("print G");

                pltr.print_G(13);

                System.out.println("print H");

                pltr.print_H(11);

        }

}
```

Question 2: -**Write a program to print triangle using star programming logic .**

Solution: -

```
package hello;

//Question number 2: -

import java.util.Scanner;

public class triangle_Pattern {

        public static void main(String[] args) {

                Scanner sc = new Scanner(System.in);

                System.out.println("Enter the number of rows=:");

                int rows = sc.nextInt();

                for (int i = 1; i <= rows; i++) {

                        for (int j = rows; j >= i; j--) {
```

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

Question 3: -**WAP to print.**

Solution: -

```
package hello;

//Question number 3: -

public class home_desion {

    public static void main(String[] args) {

        int num;

        num = 14;


        for (int i = 1; i <= num; i++) {

            for (int j = 1; j <= num; j++) {
```

```
                    if (i == 1 || j == 1 || i == 2 && j > num / 2 && j < ((num / 2))

                                    || j == 2 && i < num / 2 || j == 3 && i < num /
2 - 1 || j == 4 && i < num / 2 - 2

                                    || j == 5 && i < num / 2 - 3 || j == 6 && i <
num / 2 - 4 || j == 7 && i < num / 2 - 5

                                    || j == 7 && i < num / 2 - 6 || j == num - 1 &&
i <= num / 2 || j == num - 2 && i < num / 2

                                    || j == num - 3 && i < num / 2 - 1 || j == num
- 4 && i < num / 2 - 2

                                    || j == num - 5 && i < num / 2 - 3 || j == num
- 6 && i < num / 2 - 4

                                        ||j==num-7&&i<num/2-5|| i ==
num || j == num)

                    {

                        System.out.print("*");



                    } else {

                        System.out.print(" ");

                    }

                }

                System.out.println("");

            }

            }

}
```

Question 4: -**Write a Program to print alphabets PW SKILLS using patterns programming logic**

Solution : -

```
package hello;

//Question number 4: -

class pwskill {

	public void call_P(int num) {

		System.out.println("P");

		for (int i = 0; i < num; i++) {

			for (int j = 0; j < num; j++) {

				if (i == 0 || j == 0 || i == ((num / 2) - 1) || j == num - 1 && i
<= (num / 2) - 1) {

					System.out.print("*");

				} else {

					System.out.print(" ");

				}

			}

			System.out.println("");

		}

		System.out.println("W");

		for (int i = 0; i < num; i++) {

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

```
                    if (i == 0 && j == 0 && j == num - 1 || j == 0 || j == 1 && i
== num - 2 || j == 2 && i == num - 3

                                    || j == 3 && i == num - 4 || j == 4 && i ==
num - 3 || j == 5 && i == num - 2 || j == num - 1) {

                        System.out.print("*");

                    } else {

                        System.out.print(" ");

                    }

                }

                System.out.println("");

            }

            System.out.println("S");

            for (int i = 0; i < num; i++) {

                for (int j = 0; j < num; j++) {

                    if (i == 0 || j == 0 && i < ((num - 1) / 2) || i == ((num / 2)) ||
j == num - 1 && i > (num / 2) - 1

                                    || i == num - 1) {

                        System.out.print("*");

                    } else {

                        System.out.print(" ");

                    }

                }
```

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

            }

            System.out.println("K");

            for (int i = 0; i < num; i++) {

                for (int j = 0; j < num; j++) {

                    if (i == 0 && j == ((num - 1) / 2 + 1) || j == 0 || i == 1 && j
== ((num - 1) / 2 + 1) - 1

                            || i == num - 2 && j == ((num - 1) / 2 + 1) - 1
|| i == (num - 1) / 2 && j == 1

                            || i == (num - 1) / 2 + 1 && j == 2 || i == (num
- 1) / 2 - 1 && j == 2

                            || j == (num - 1) / 2 && i == 0 && i == num -
1 || i == num - 1 && j == ((num - 1) / 2 + 1)) {

                        System.out.print("*");

                    } else {

                        System.out.print(" ");

                    }

                }

                System.out.println("");

            }

            System.out.println("l");

            for (int i = 0; i < num; i++) {

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

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

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

```
                }

        }

}

public class pwSkill_pattern {

        public static void main(String[] args) {

                pwskill ps = new pwskill();

                ps.call_P(7);

        }

}
```

Question 5: -**Write a Program to print Your Full Name using patterns programming logic**

Solution: -

```
package hello;

//Question number 5: -

class print_myName {

        public void print_name(int num) {

                System.out.println("V");

                for (int i = 0; i < num; i++) {

                        for (int j = 0; j < num; j++) {

                                if (i == 0 && j == 0 && j == num - 1 || j == 0 && i <= (num
- 1) / 2
```

```
                                        || j == num - 1 && i <= (num - 1) / 2 || i ==
(num - 1) / 2 + 1 && j == 1

                                        || i == (num - 1) / 2 + 2 && j == 2 || i == (num
- 1) / 2 + 3 && j == 3

                                        || i == (num - 1) / 2 + 1 && j == (num - 2) || i
== (num - 1) / 2 + 2 && j == (num - 2)

                                        || i == (num - 1) / 2 + 3 && j == (num - 3) || i
== num - 1 && j == (num - 1) / 2) {

                                                System.out.print("*");

                                        } else {

                                                System.out.print(" ");

                                        }

                                }

                                System.out.println("");

                        }

                        System.out.println("I");

                        for (int i = 0; i < num; i++) {

                                for (int j = 0; j < num; j++) {

                                        if (i == 0 || j == (num - 1) / 2 || i == num - 1) {

                                                System.out.print("*");

                                        } else {

                                                System.out.print(" ");

                                        }
```

```
                }

                System.out.println("");

            }

            System.out.println("K");

            for (int i = 0; i < num; i++) {

                for (int j = 0; j < num; j++) {

                    if (i == 0 && j == ((num - 1) / 2 + 1) || j == 0 || i == 1 && j
== ((num - 1) / 2 + 1) - 1

                            || i == num - 2 && j == ((num - 1) / 2 + 1) - 1
|| i == (num - 1) / 2 && j == 1

                            || i == (num - 1) / 2 + 1 && j == 2 || i == (num
- 1) / 2 - 1 && j == 2

                            || j == (num - 1) / 2 && i == 0 && i == num -
1 || i == num - 1 && j == ((num - 1) / 2 + 1)) {

                        System.out.print("*");

                    } else {

                        System.out.print(" ");

                    }

                }

                System.out.println("");

            }

            System.out.println("A");

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

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

```
                System.out.println("");
            }
            System.out.println("H");
            for (int i = 0; i < num; i++) {
                for (int j = 0; j < num; j++) {
                    if (            j == 0


                                    || i == (num - 1)/2
                                    || j == (num - 1)) {
                        System.out.print("*");
                    } else {
                        System.out.print(" ");
                    }
                }
                System.out.println();
            }
        }
        }
public class myName {
        public static void main(String[] args) {
            print_myName pm = new print_myName();
```

```
                pm.print_name(10);

        }

}
```