OOPJ
Lab Assignment-1

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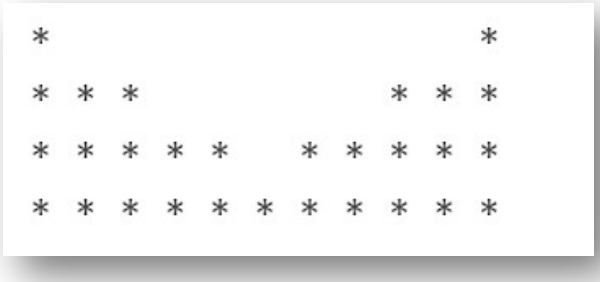
Section: - CSE-5

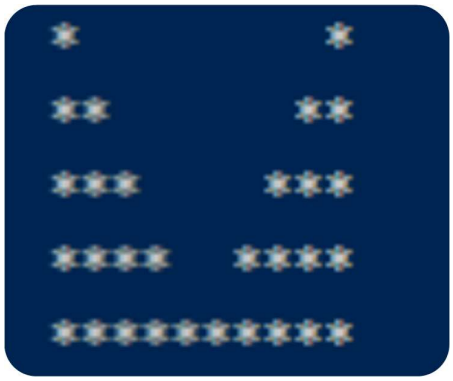
1)



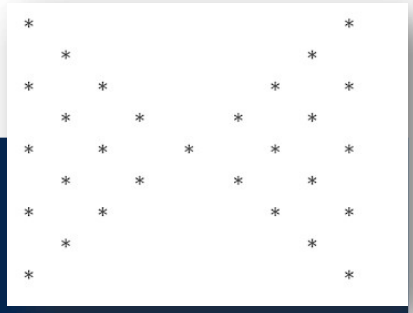
Code

```
public class starPattern {
    public static void main(String[] args) {
        int n = 5;
        for (int i = 1; i <= n; i++) {
            for (int j = 1; j <= i; j++) {
                System.out.print("*");
            }
            for (int k = 1; k <= 2 * (n - i); k++) {
                System.out.print(" ");
            }
            for (int l = 1; l <= i; l++) {
                System.out.print("*");
            }
            System.out.println();
        }
    }
}
```

Output



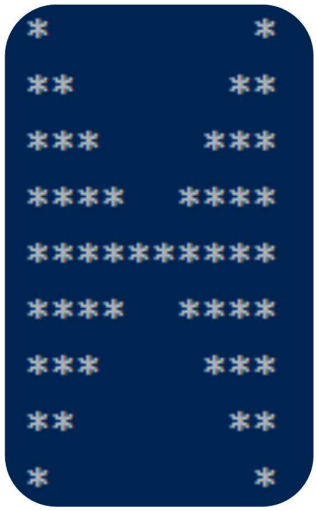
2) Right-Left pascal triangle



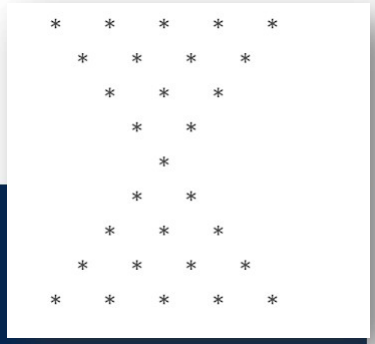
Code

```
public class starPattern {
    public static void main(String[] args) {
        int n = 5;
        for (int i = 1; i <= n; i++) {
            for (int j = 1; j <= i; j++) {
                System.out.print("*");
            }
            for (int k = 1; k <= 2 * (n - i); k++) {
                System.out.print(" ");
            }
            for (int l = 1; l <= i; l++) {
                System.out.print("*");
            }
            System.out.println();
        }
        for (int i = n - 1; i >= 1; i--) {
            for (int j = 1; j <= i; j++) {
                System.out.print("*");
            }
            for (int k = 1; k <= 2 * (n - i); k++) {
                System.out.print(" ");
            }
            for (int l = 1; l <= i; l++) {
                System.out.print("*");
            }
            System.out.println();
        }
    }
}
```

Output



3) Sand glass star pattern



Code

```java
// sandglass star pattern
import java.util.Scanner;
public class starPattern {
    public static void main(String[] args) {
        int i, j, k, n;
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter the number of rows you want to print: ");
        n = sc.nextInt();
        for (i = 0; i <= n - 1; i++) {
            for (j = 0; j < i; j++) {
                System.out.print(" ");
            }
            for (k = i; k <= n - 1; k++) {
                System.out.print("*" + " ");
            }
            System.out.println("");
        }
        for (i = n - 1; i >= 0; i--) {
            for (j = 0; j < i; j++) {
                System.out.print(" ");
            }
            for (k = i; k <= n - 1; k++) {
                System.out.print("*" + " ");
            }
            System.out.println("");
        }
        sc.close();
    }
}
```

Output

```
Enter the number of rows you want to print: 5
* * * * *
 * * * *
  * * *
   * *
    *
    *
   * *
  * * *
 * * * *
* * * * *
```

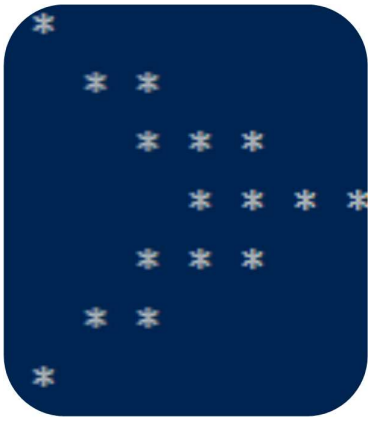
4)

code

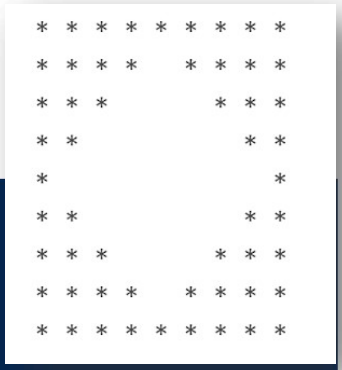
```
public class starPattern {
    static void triangle(int nos, int i) {
        char print = '*';
        int s, j;
        for (s = nos; s >= 1; s--) {
            System.out.print("  ");
        }
        for (j = 1; j <= i; j++) {
            System.out.printf("%2c", print);
        }
        System.out.println();
    }

    public static void main(String[] args) {
        int i, nos = 5;
        for (i = 1; i <= 4; i++) {
            triangle(nos, i);
            nos++;
        }
        nos = 7;
        for (i = 3; i >= 1; i--) {
            int j = 1;
            triangle(nos, i);
            nos = nos - j;
        }
    }
}
```

Output



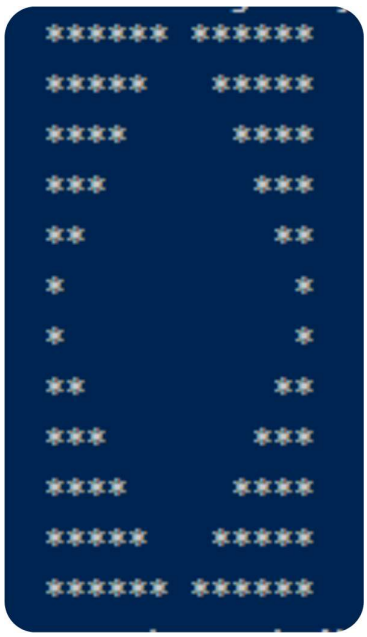
5) Hollow Diamond Star Pattern



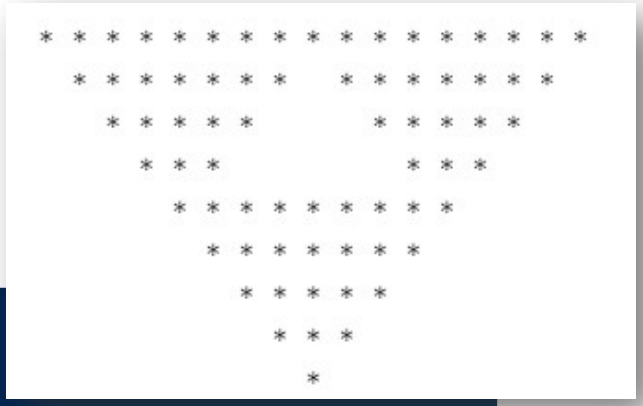
```
* * * * * * * * * *
* * * *     * * * *
* * *         * * *
* *             * *
*                 *
* *             * *
* * *         * * *
* * * *     * * * *
* * * * * * * * * *
```

```java
public class starPattern {
    public static void main(String args[]) {
        int n = 6;
        for (int i = 1; i <= n; i++) {
            for (int j = i; j <= n; j++) {
                System.out.print("*");
            }
            for (int j = 1; j <= (2 * i - 1); j++) {
                System.out.print(" ");
            }
            for (int j = i; j <= n; j++) {
                System.out.print("*");
            }
            System.out.println();
        }
        for (int i = 1; i <= n; i++) {
            for (int j = 1; j <= i; j++) {
                System.out.print("*");
            }
            for (int j = (2 * i - 2); j < (2 * n - 1); j++) {
                System.out.print(" ");
            }
            for (int j = 1; j <= i; j++) {
                System.out.print("*");
            }
            System.out.println();
        }
    }
}
```

Output



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



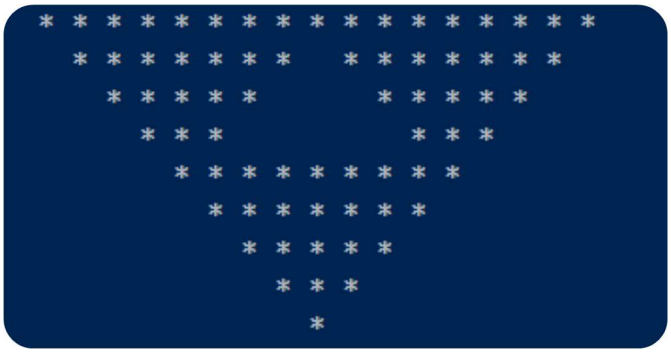
6)

Code

```
public class starPattern {

    public static void main(String[] args) {
        char print = '*';
        int i, j, k, s, sp, nos = 0, nosp = -1;
        for (i = 9; i >= 3; i -= 2) {
            for (s = nos; s >= 1; s--) {
                System.out.print("  ");
            }
            for (j = 1; j <= i; j++) {
                System.out.printf("%2c", print);
            }
            for (sp = nosp; sp >= 1; sp--) {
                System.out.print("  ");
            }
            for (k = 1; k <= i; k++) {
                if (i == 9 && k == 1) {
                    continue;
                }
                System.out.printf("%2c", print);
            }
            nos++;
            nosp = nosp + 2;
            System.out.println();
        }
        nos = 4;
        for (i = 9; i >= 1; i -= 2) {
            for (s = nos; s >= 1; s--) {
                System.out.print("  ");
            }
            for (j = 1; j <= i; j++) {
                System.out.printf("%2c", print);
            }
            nos++;
            System.out.println();
        }
    }
}
```

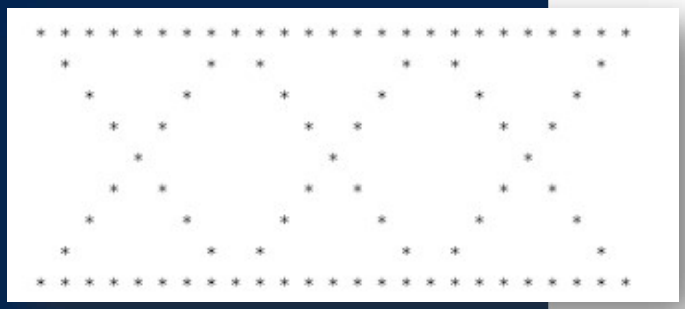
Output



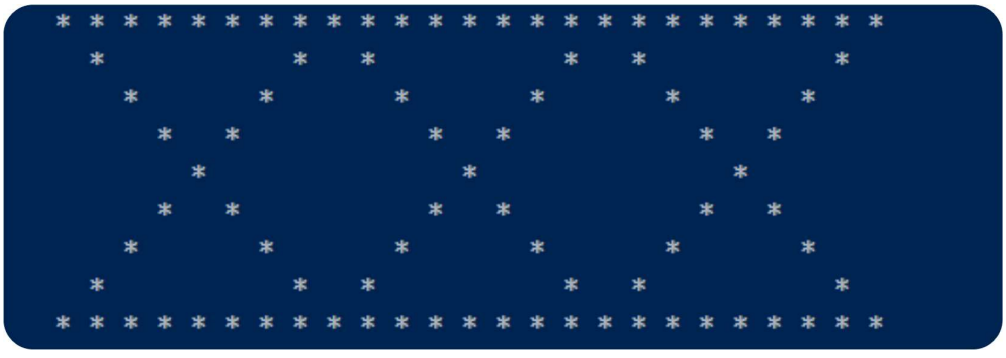
9)

code

```
public class starPattern {
    static void triangle(int nos, int i, int skip) {
        char print = '*';
        int s, j;
        for (s = nos; s >= 1; s--) {
            System.out.print("  ");
        }
        for (j = 1; j <= i; j++) {
            if (skip != 0) {
                if (i == 9 && j == 1) {
                    continue;
                }
            }
            if (i == 1 || i == 9) {
                System.out.printf("%2c", print);
            } else if (j == 1 || j == i) {
                System.out.printf("%2c", print);
            } else {
                System.out.print("  ");
            }
        }
    }
    public static void main(String[] args) {
        int i, nos = 0, nosp = -1, nbsp = -1;
        for (i = 9; i >= 1; i -= 2) {
            triangle(nos, i, 0);
            triangle(nosp, i, 1);
            triangle(nbsp, i, 1);
            System.out.println();
            nos++;
            nosp = nosp + 2;
            nbsp = nbsp + 2;
        }
        nos = 3;
        nosp = 5;
        nbsp = 5;
        for (i = 3; i <= 9; i += 2) {
            triangle(nos, i, 0);
            triangle(nosp, i, 1);
            triangle(nbsp, i, 1);
            System.out.println();
            nos--;
            nosp = nosp - 2;
            nbsp = nbsp - 2;
        }
    }
}
```



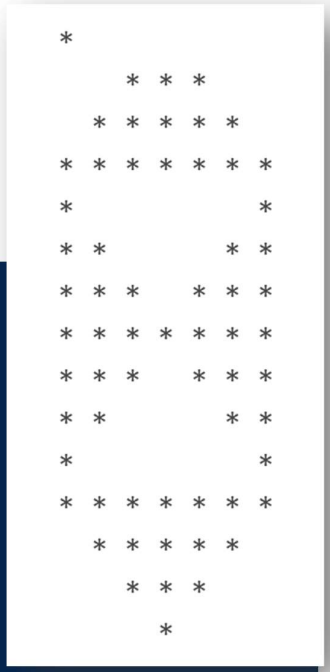
Output



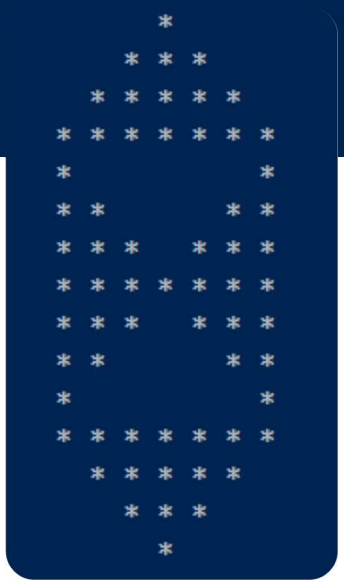
10)

Code

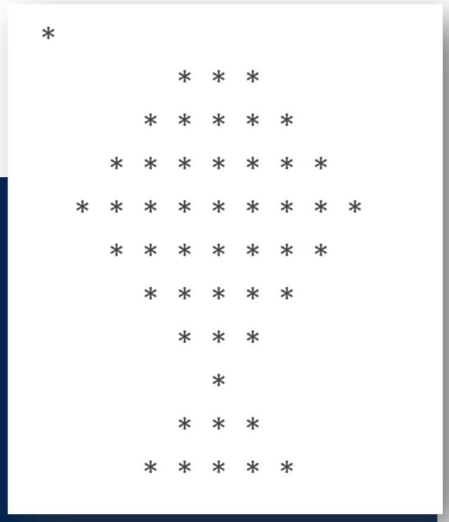
```
public class starPattern {
    static void triangle(int nos, int i, boolean skip) {
        char print = '*';
        int s, j;
        for (s = nos; s >= 1; s--) {
            System.out.print("  ");
        }for (j = 1; j <= i; j++) {
            if (skip && i == 4 && j == 1) {
                continue;
            }
            System.out.printf("%2c", print);
        }
    }
    public static void main(String[] args) {
        int i, nos = 4;
        for (i = 1; i <= 7; i += 2) {
            triangle(nos, i, false);
            nos--;
            System.out.println();
        }
        nos = 5;
        for (i = 1; i <= 4; i++) {
            triangle(1, i, false);
            triangle(nos, i, true);
            nos = nos - 2;
            System.out.println();
        }
        nos = 1;
        for (i = 3; i >= 1; i--) {
            triangle(1, i, false);
            triangle(nos, i, false);
            nos = nos + 2;
            System.out.println();
        }
        nos = 1;
        for (i = 7; i >= 1; i -= 2) {
            triangle(nos, i, false);
            nos++;
            System.out.println();
        }
    }
}
```



Output



11)



Code

```
public class starPattern {
    public static void main(String[] args) {
        char print = '*';
        int i, j, k, s, nos = 4;
        for (i = 1; i <= 5; i++) {
            for (s = nos; s >= 1; s--) {
                System.out.print("  ");
            }for (j = 1; j <= i; j++) {
                System.out.printf("%2c", print);
            }for (k = 1; k <= (i - 1); k++) {
                if (i == 1) {
                    continue;
                }
                System.out.printf("%2c", print);
            }
            System.out.println();
            nos--;
        }
        nos = 1;
        for (i = 4; i >= 1; i--) {
            for (s = nos; s >= 1; s--) {
                System.out.print("  ");
            }for (j = 1; j <= i; j++) {
                System.out.printf("%2c", print);
            }for (k = 1; k <= (i - 1); k++) {
                System.out.printf("%2c", print);
            }
            nos++;
            System.out.println();
        }
        nos = 3;
        for (i = 2; i <= 5; i++) {
            if ((i % 2) != 0) {
                for (s = nos; s >= 1; s--) {
                    System.out.print("  ");
                }for (j = 1; j <= i; j++) {
                    System.out.printf("%2c", print);
                }
            }if ((i % 2) != 0) {
                System.out.println();
                nos--;
            }
        }
    }
}
```

Output