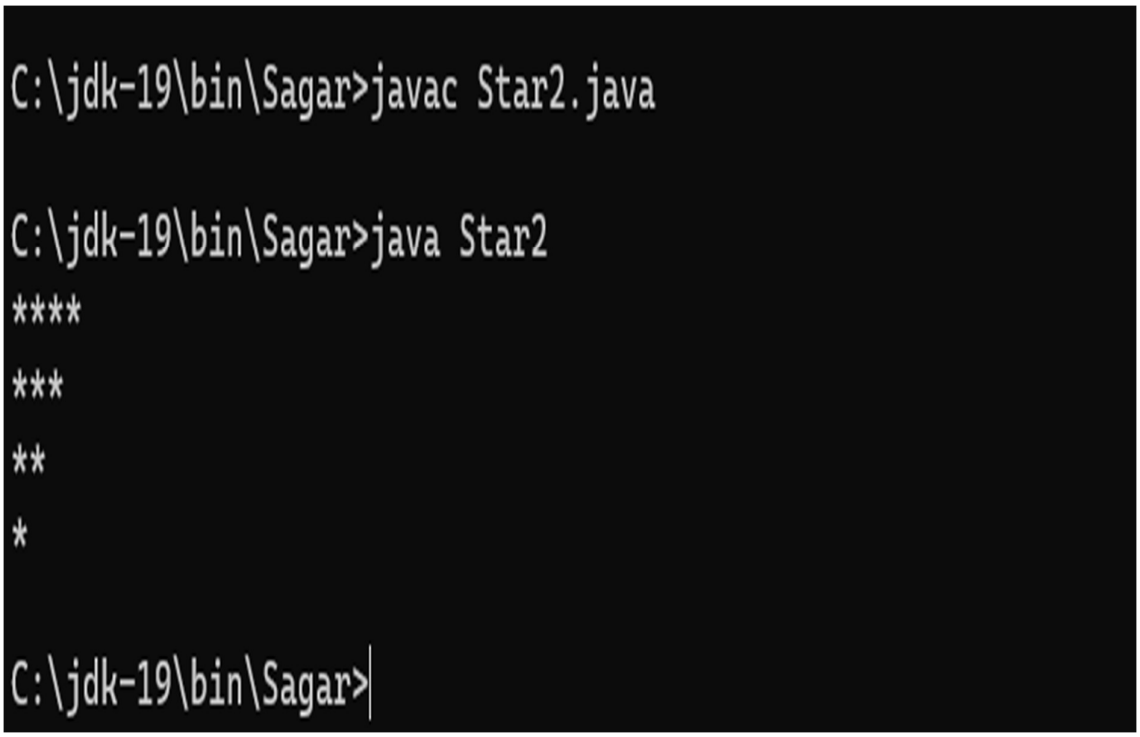
Output :-

```
C:\jdk-19\bin\Sagar>javac Swap.java

C:\jdk-19\bin\Sagar>java Swap
*
**
***
****

C:\jdk-19\bin\Sagar>
```

1. **Simple Right-Angled Triangle**

```
public class Swap{
  public static void main(String[] args) {
for (int i = 1; i <= 4; i++) {
   for (int j = 1; j <= i; j++) {
      System.out.print("*");
   }
   System.out.println();
}
}
}
```

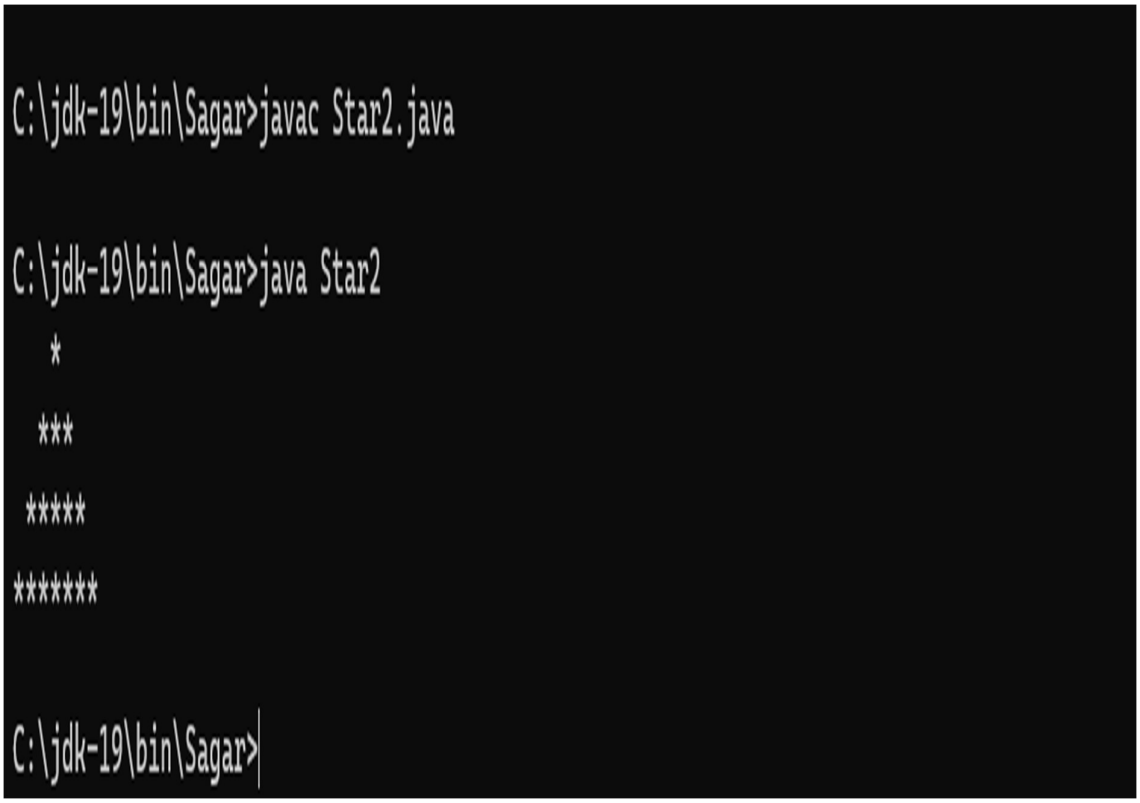
Output:-


C:\jdk-19\bin\Sagar>javac Star2.java
C:\jdk-19\bin\Sagar>java Star2
****
***
**
*
C:\jdk-19\bin\Sagar>

2. **Inverted Right-Angled Triangle**

```
public class Star2{
public static void main(String[]args){
 for (int i = 4; i >= 1; i--) {
    for (int j = 1; j <= i; j++) {
        System.out.print("*");
    }
    System.out.println();
}
}
}
```

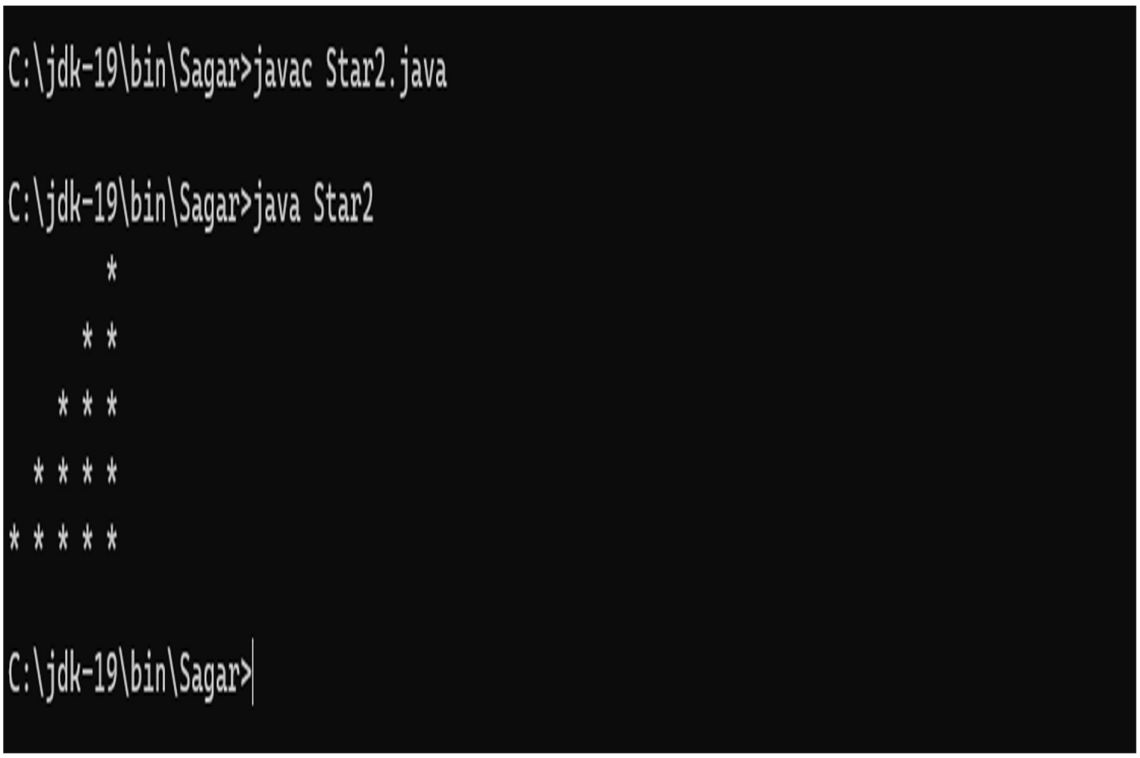
Output:-


C:\jdk-19\bin\Sagar>javac Star2.java
C:\jdk-19\bin\Sagar>java Star2
*
***
*****
******
C:\jdk-19\bin\Sagar>

3. Pyramid Pattern

```
public class Star2{
public static void main(String[]args){
for (int i = 1; i <= 4; i++) {
   for (int j = 4; j > i; j--) {
      System.out.print(" ");
   }
   for (int k = 1; k <= (2 * i - 1); k++) {
      System.out.print("*");
   }
   System.out.println();
}
}
}
```

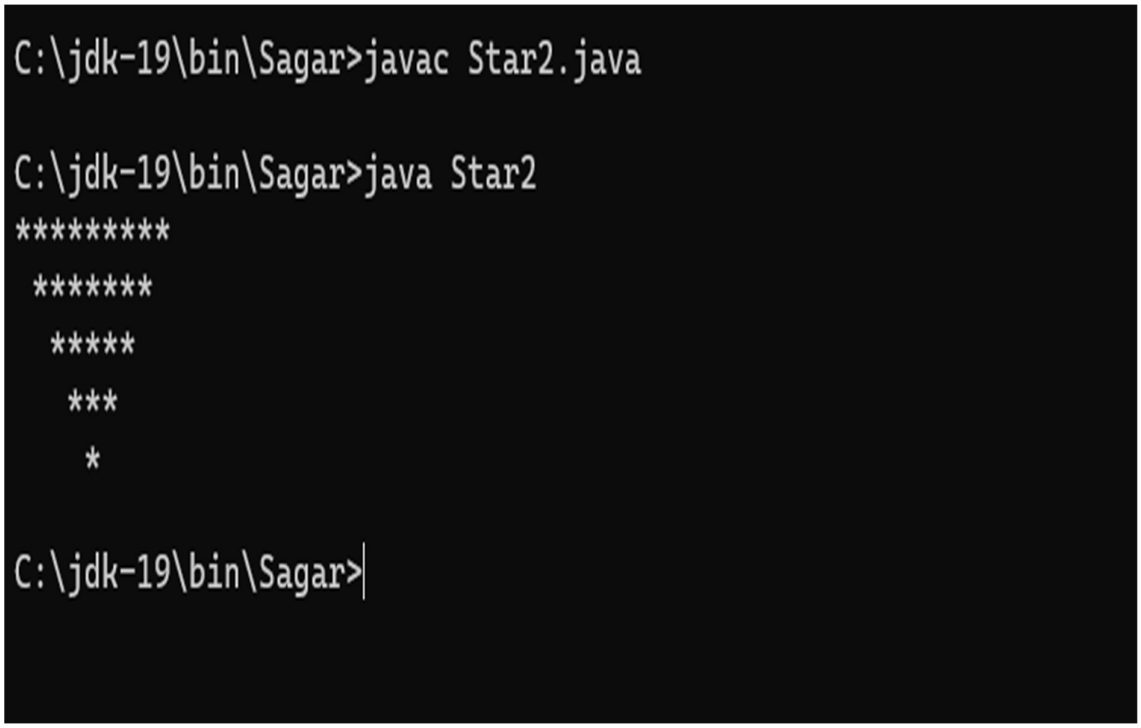
Output :-


C:\jdk-19\bin\Sagar>javac Star2.java
C:\jdk-19\bin\Sagar>java Star2
*
* *
* * *
* * * *
* * * * *
C:\jdk-19\bin\Sagar>

4. Left-Aligned Triangle

```
public class Star2 {
    public static void main(String[] args) {
        int n = 5;
        for (int i = 1; i <= n; i++) {
            for (int j = 1; j <= n - i; j++) {
                System.out.print("  ");
            }
            for (int k = 1; k <= i; k++) {
                System.out.print("* ");
            }
            System.out.println();
        }
    }
}
```

Output :-


C:\jdk-19\bin\Sagar>javac Star2.java
C:\jdk-19\bin\Sagar>java Star2
****
 ****
  *****
   ***
    *
C:\jdk-19\bin\Sagar>

5. **Inverted Pyramid**

```
public class Star2 {
   public static void main(String[] args) {
      int n = 5;
      for (int i = n; i >= 1; i--) {
         for (int j = 1; j <= n - i; j++) {
            System.out.print(" ");
         }
         for (int k = 1; k <= 2 * i - 1; k++) {
            System.out.print("*");
         }
         System.out.println();
      }
   }
}
```

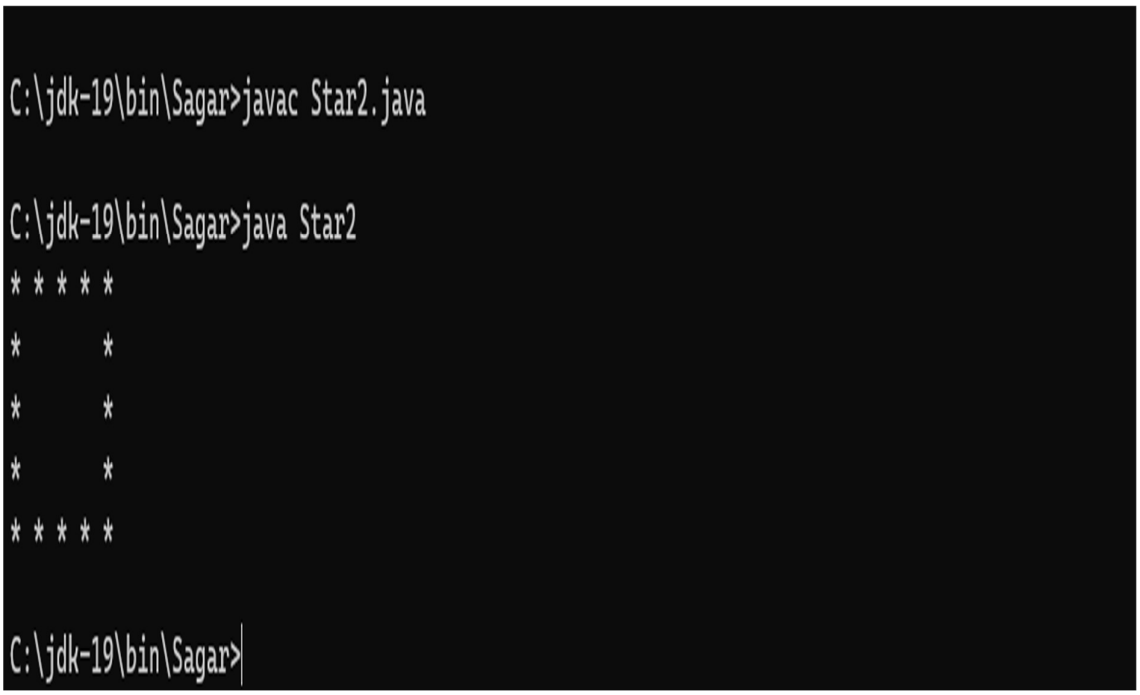
Output:-


C:\jdk-19\bin\Sagar>javac Star2.java
C:\jdk-19\bin\Sagar>java Star2
*
***
*****
****
****
****
*****
***
*
C:\jdk-19\bin\Sagar>

6. **Diamond Pattern**

```
public class Star2 {
   public static void main(String[] args) {
      int n = 5;
      for (int i = 1; i <= n; i++) {
         for (int j = 1; j <= n - i; j++) {
            System.out.print(" ");
         }
         for (int k = 1; k <= 2 * i - 1; k++) {
            System.out.print("*");
         }
         System.out.println();
      }
      for (int i = n - 1; i >= 1; i--) {
         for (int j = 1; j <= n - i; j++) {
            System.out.print(" ");
         }
         for (int k = 1; k <= 2 * i - 1; k++) {
            System.out.print("*");
         }
         System.out.println();
      }
   }
}
```

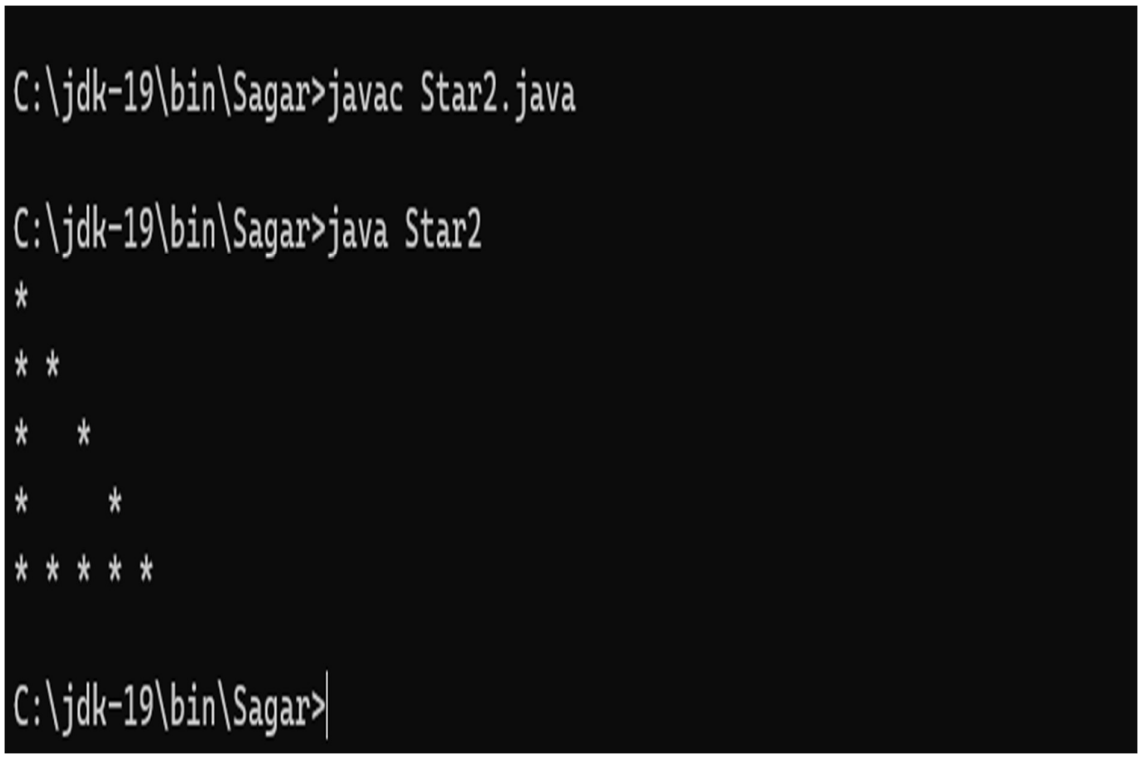
Output:-


C:\jdk-19\bin\Sagar>javac Star2.java
C:\jdk-19\bin\Sagar>java Star2
* * * * *
*   *
*   *
*   *
* * * * *
C:\jdk-19\bin\Sagar>

7. **Hollow Square**

```
    public class Pattern8 {
public static void main(String[] args) {
    int n = 5;
    for (int i = 1; i <= n; i++) {
        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();
    }
}
}
```

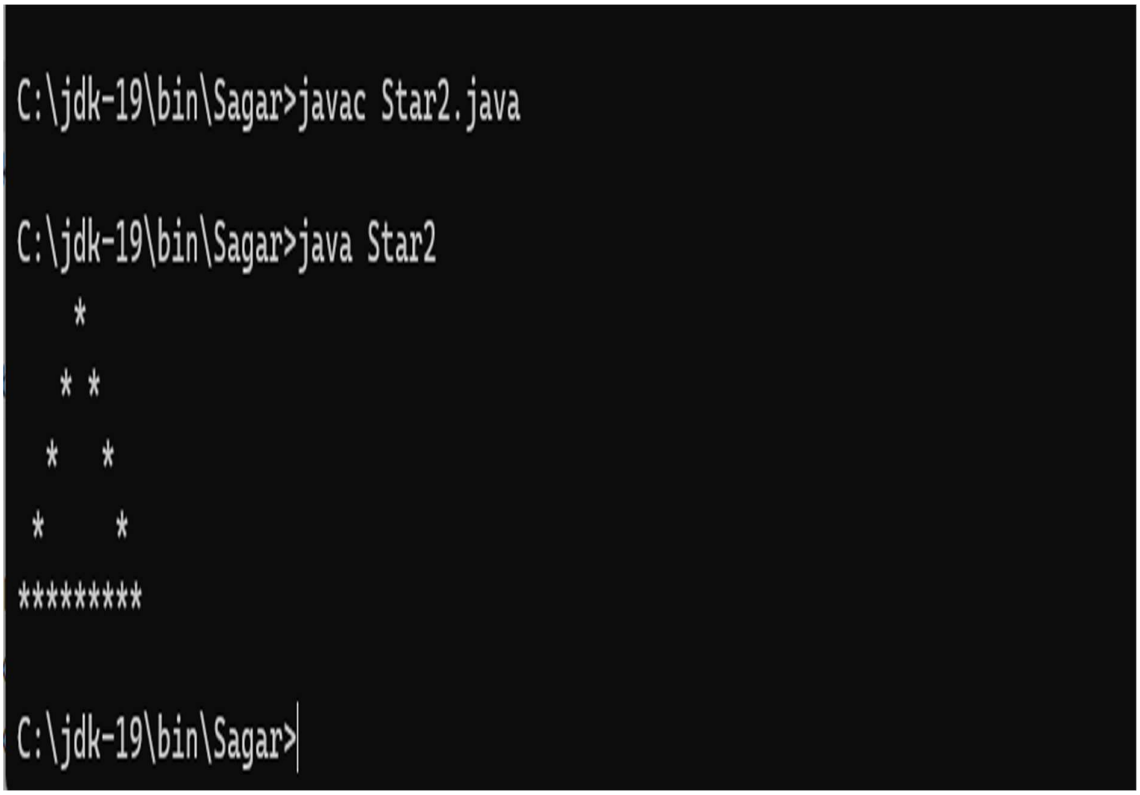
Output:-


C:\jdk-19\bin\Sagar>javac Star2.java
C:\jdk-19\bin\Sagar>java Star2
*
* *
*   *
*   *
* * * * *
C:\jdk-19\bin\Sagar>

8. **Hollow Triangle**

```
public class Star2 {
   public static void main(String[] args) {
      int n = 5;
      for (int i = 1; i <= n; i++) {
         for (int j = 1; j <= i; j++) {
            if (j == 1 || j == i || i == n) {
               System.out.print("* ");
            } else {
               System.out.print("  ");
            }
         }
         System.out.println();
      }
   }
}
```

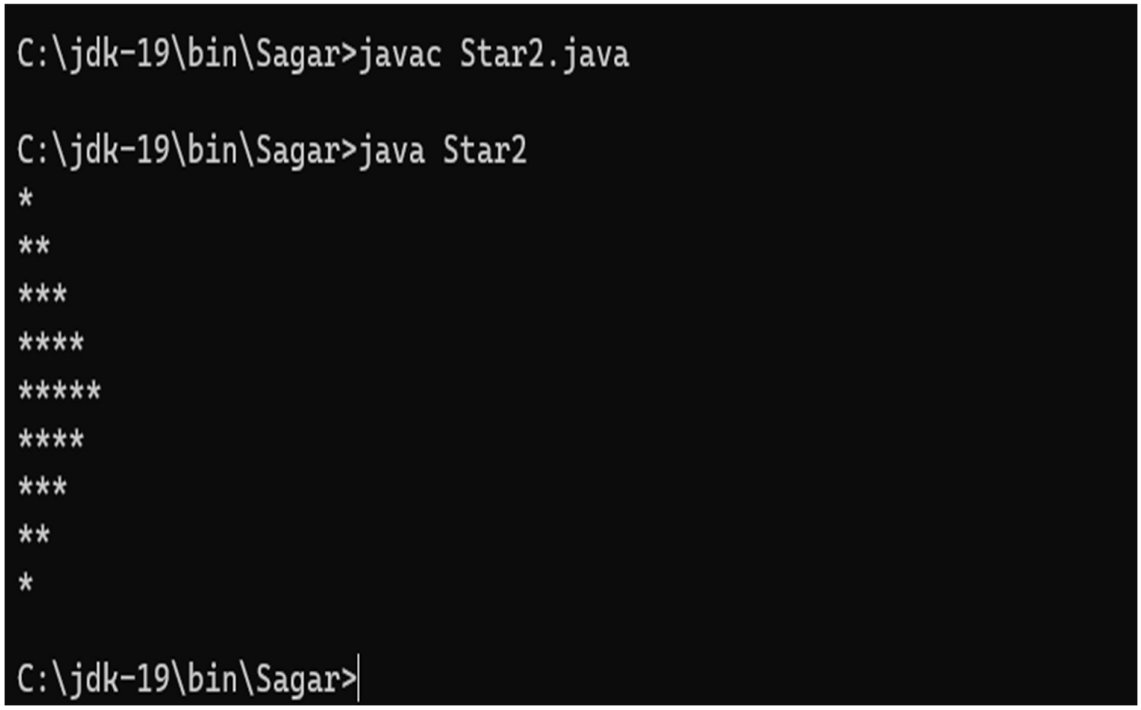
Output:-


C:\jdk-19\bin\Sagar>javac Star2.java
C:\jdk-19\bin\Sagar>java Star2
*
* *
* *
* *
****
C:\jdk-19\bin\Sagar>

9. **Hollow Pyramid**

```
public class Star2 {
   public static void main(String[] args) {
      int n = 5;
      for (int i = 1; i <= n; i++) {
         for (int j = 1; j <= n - i; j++) {
            System.out.print(" ");
         }
         for (int k = 1; k <= 2 * i - 1; k++) {
            if (k == 1 || k == 2 * i - 1 || i == n) {
               System.out.print("*");
            } else {
               System.out.print(" ");
            }
         }
         System.out.println();
      }
   }
}
```

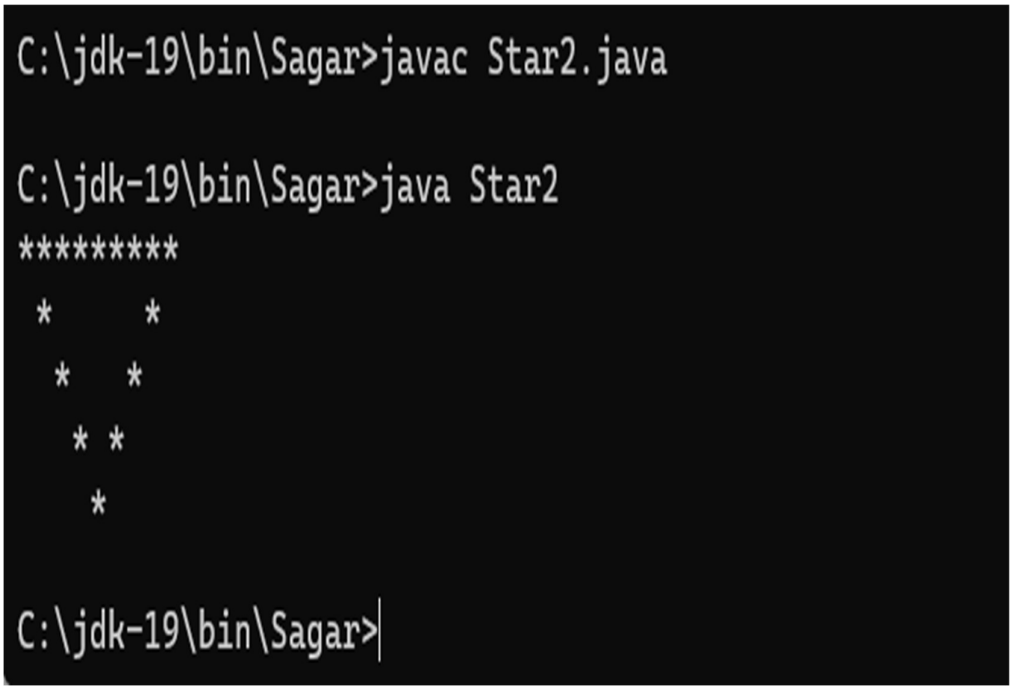
Output:-


C:\jdk-19\bin\Sagar>javac Star2.java
C:\jdk-19\bin\Sagar>java Star2
*
**
***
****
*****
****
***
**
*
C:\jdk-19\bin\Sagar>

10.Half Diamond

```
public class Star2 {
   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("*");
         }
         System.out.println();
      }
      for (int i = n - 1; i >= 1; i--) {
         for (int j = 1; j <= i; j++) {
            System.out.print("*");
         }
         System.out.println();
      }
   }
}
```

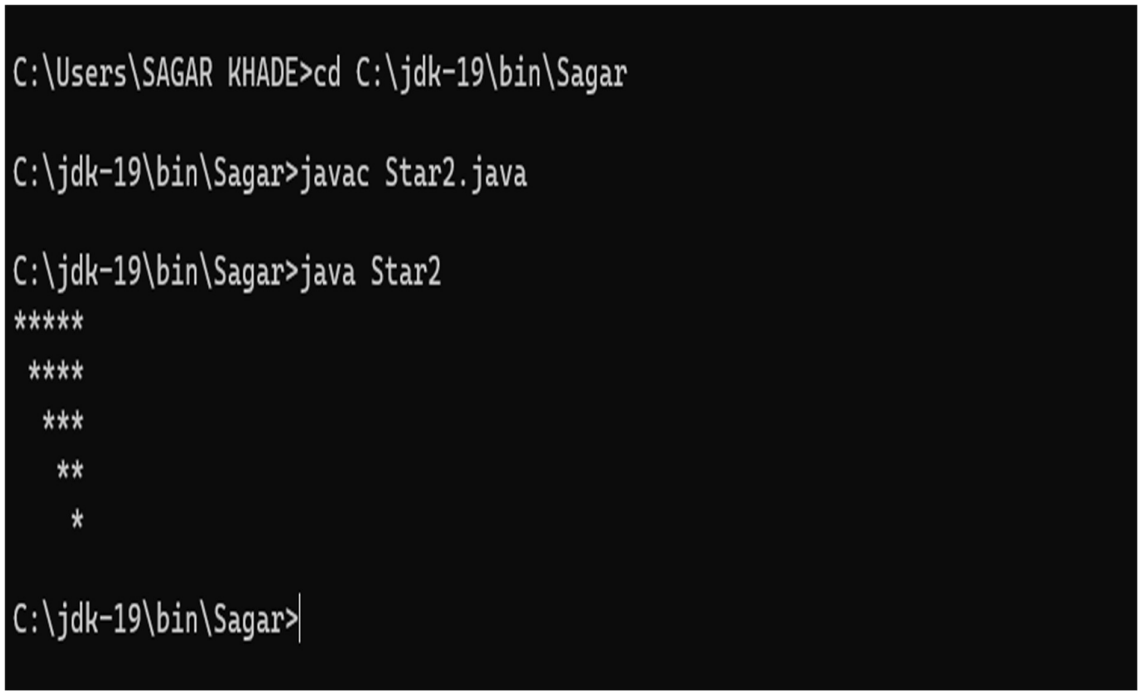
Output:-


C:\jdk-19\bin\Sagar>javac Star2.java
C:\jdk-19\bin\Sagar>java Star2
****
*
*
*
*
*
*
*
*
C:\jdk-19\bin\Sagar>

11.Hollow Inverted Pyramid

```
class Star2 {
   public static void main(String[] args) {
      int n = 5;
      for (int i = n; i >= 1; i--) {
         for (int j = 1; j <= n - i; j++) {
            System.out.print(" ");
         }
         for (int k = 1; k <= 2 * i - 1; k++) {
            if (k == 1 || k == 2 * i - 1 || i == n) {
               System.out.print("*");
            } else {
               System.out.print(" ");
            }
         }
         System.out.println();
      }
   }
}
```

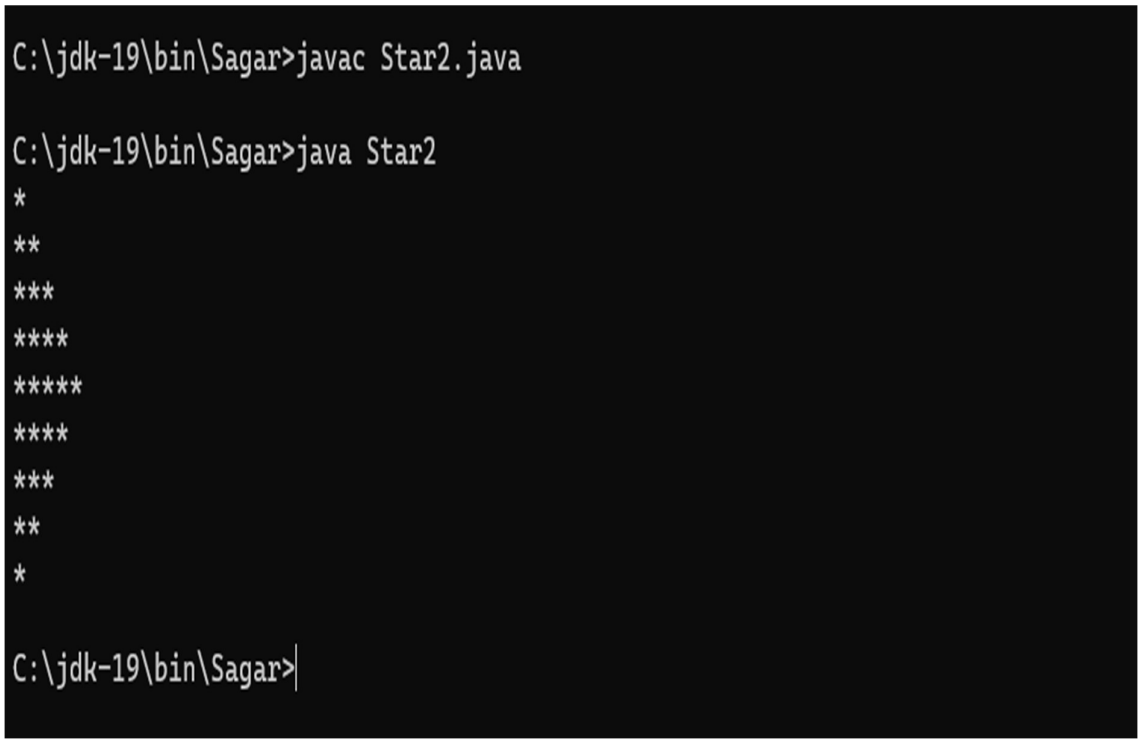
Output:-


C:\Users\SAGAR KHADE>cd C:\jdk-19\bin\Sagar
C:\jdk-19\bin\Sagar>javac Star2.java
C:\jdk-19\bin\Sagar>java Star2
*****
****
***
**
*
C:\jdk-19\bin\Sagar>

12.Right Arrow Pattern

```
public class Star2 {
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 = i; k <= n; k++) {
         System.out.print("*");
      }
      System.out.println();
   }
 }
}
```

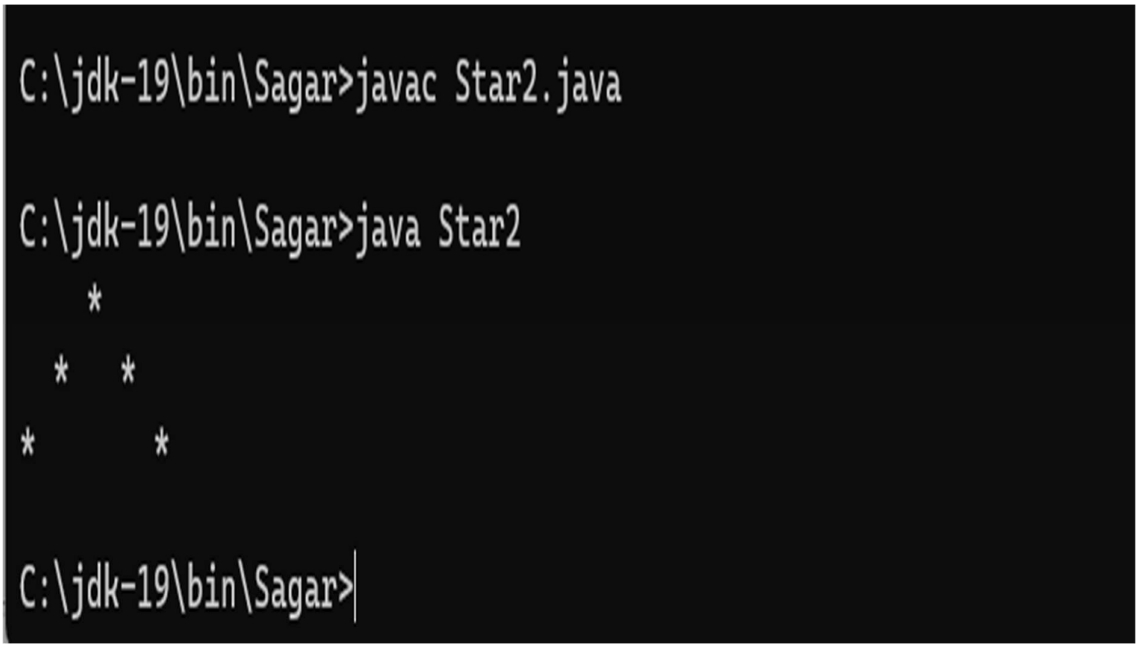
Output :-


C:\jdk-19\bin\Sagar>javac Star2.java
C:\jdk-19\bin\Sagar>java Star2
*
**
***
****
*****
****
***
**
*
C:\jdk-19\bin\Sagar>

13. Left Arrow Pattern

```
public class Star2 {
    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("*");
            }
            System.out.println();
        }
        for (int i = n - 1; i >= 1; i--) {
            for (int j = 1; j <= i; j++) {
                System.out.print("*");
            }
            System.out.println();
        }
    }
}
```

Output:-


C:\jdk-19\bin\Sagar>javac Star2.java
C:\jdk-19\bin\Sagar>java Star2
*
* *
* *
C:\jdk-19\bin\Sagar>

14. Zig-Zag Pattern

```
public class Star2 {
    public static void main(String[] args) {
        int n = 5;
        for (int i = 1; i <= 3; i++) {
            for (int j = 1; j <= n; j++) {
                if (((i + j) % 4 == 0) || (i == 2 && j % 4 == 0)) {
                    System.out.print("* ");
                } else {
                    System.out.print("  ");
                }
            }
            System.out.println();
        }
    }
}
```

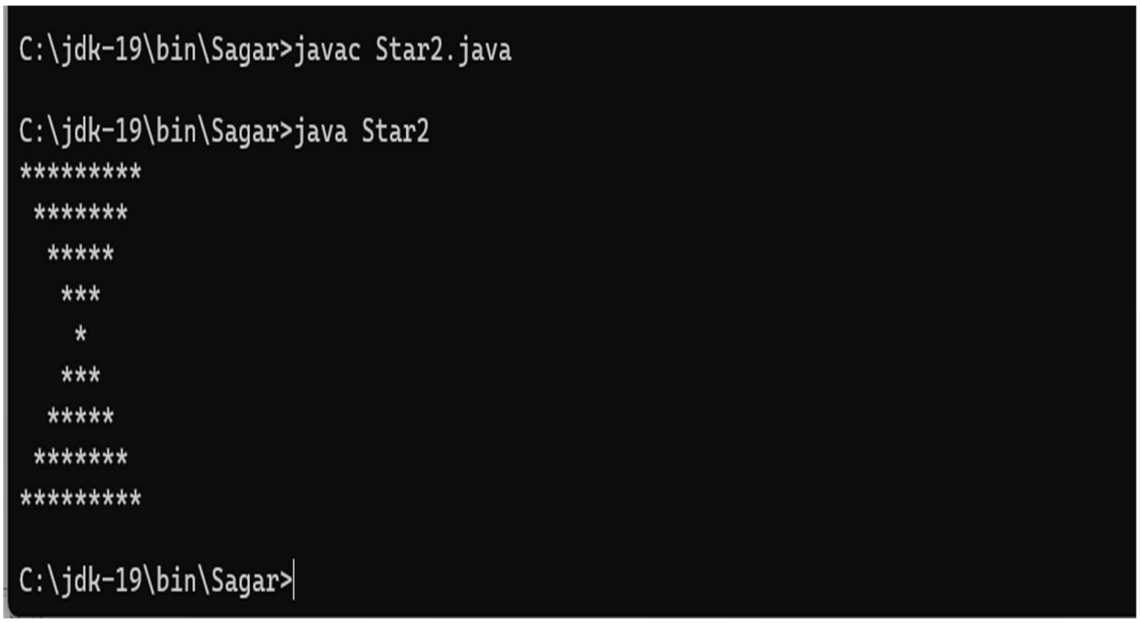
Output:-

```
C:\jdk-19\bin\Sagar>javac Star2.java

C:\jdk-19\bin\Sagar>java Star2
*         *
**       **
***     ***
****   ****
**********
**********
****   ****
***     ***
**       **
*         *

C:\jdk-19\bin\Sagar>
```

15. Butterfly Pattern

```
public class Star2 {
    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 j = 1; j <= 2 * (n - i); j++) {
                System.out.print(" ");
            }
            for (int j = 1; j <= i; j++) {
                System.out.print("*");
            }
            System.out.println();
        }
        for (int i = n; i >= 1; i--) {
            for (int j = 1; j <= i; j++) {
                System.out.print("*");
            }
            for (int j = 1; j <= 2 * (n - i); j++) {
                System.out.print(" "); }
            for (int j = 1; j <= i; j++) {
                System.out.print("*"); }
            System.out.println();
        }
    }
}
```

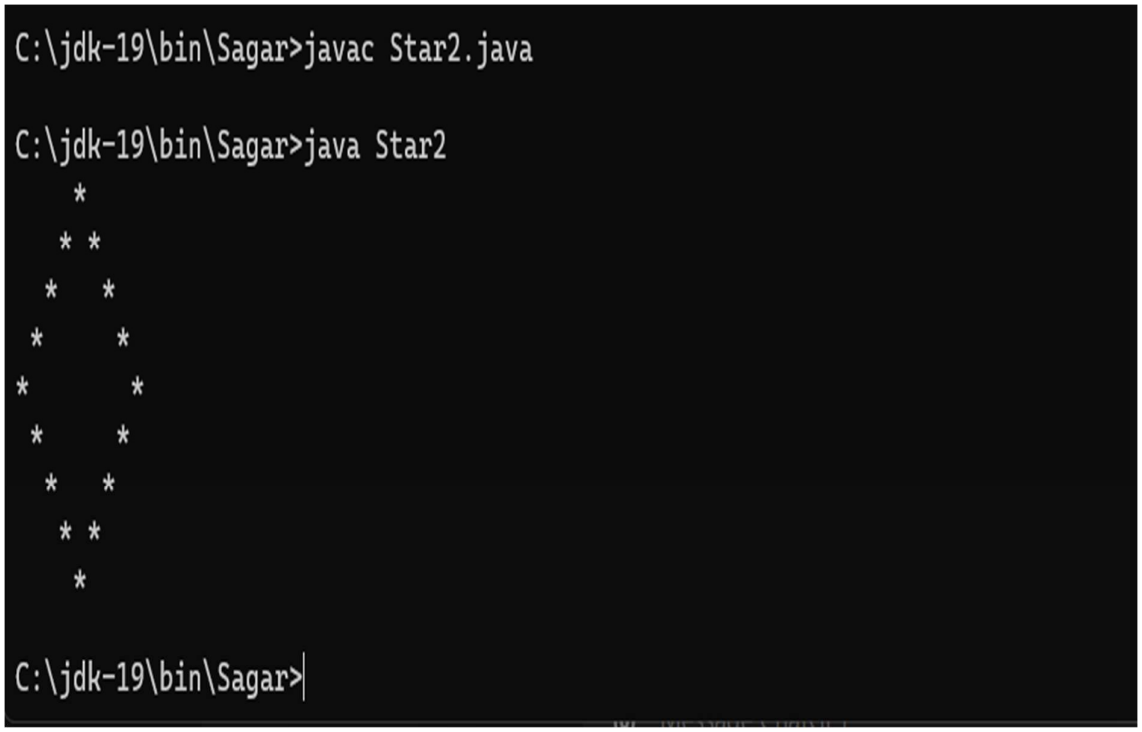
Output:-


C:\jdk-19\bin\Sagar>javac Star2.java
C:\jdk-19\bin\Sagar>java Star2
****
 ****
  *****
   ***
    *
   ***
  *****
 ****
****
C:\jdk-19\bin\Sagar>

16. Hourglass Pattern

```
                public class Star2 {
    public static void main(String[] args) {
        int n = 5;
        for (int i = n; i >= 1; i--) {
            for (int j = 1; j <= n - i; j++) {
                System.out.print(" ");
            }
            for (int k = 1; k <= 2 * i - 1; k++) {
                System.out.print("*");
            }
            System.out.println();
        }
        for (int i = 2; i <= n; i++) {
            for (int j = 1; j <= n - i; j++) {
                System.out.print(" ");
            }
            for (int k = 1; k <= 2 * i - 1; k++) {
                System.out.print("*");
            }
            System.out.println();
        }
    }
}
```

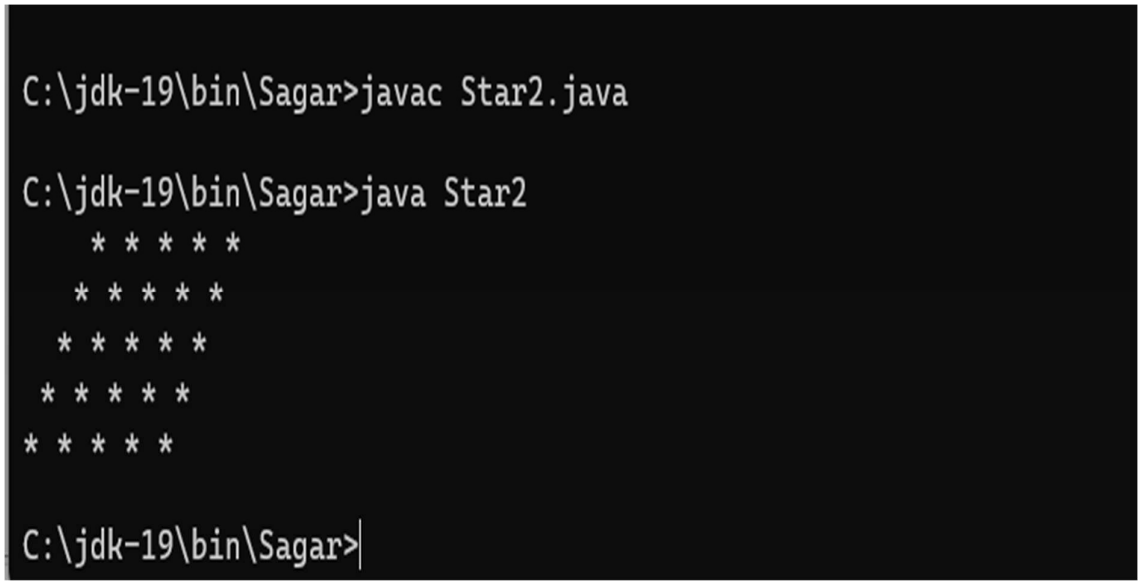
Output:-


C:\jdk-19\bin\Sagar>javac Star2.java
C:\jdk-19\bin\Sagar>java Star2
*
* *
* *
* *
* *
* *
* *
C:\jdk-19\bin\Sagar>

17. Hollow Diamond

```
public class Star2 {
   public static void main(String[] args) {
      int n = 5;
      for (int i = 1; i <= n; i++) {
         for (int j = 1; j <= n - i; j++) {
            System.out.print(" ");
         }
         for (int k = 1; k <= 2 * i - 1; k++) {
            if (k == 1 || k == 2 * i - 1) {
               System.out.print("*");
            } else {
               System.out.print(" ")  }
         }
         System.out.println();
      }
      for (int i = n - 1; i >= 1; i--) {
         for (int j = 1; j <= n - i; j++) {
            System.out.print(" ") }
         for (int k = 1; k <= 2 * i - 1; k++) {
            if (k == 1 || k == 2 * i - 1) {
               System.out.print("*");} else {
               System.out.print(" "); }
         }
         System.out.println();
      }
   }}
```

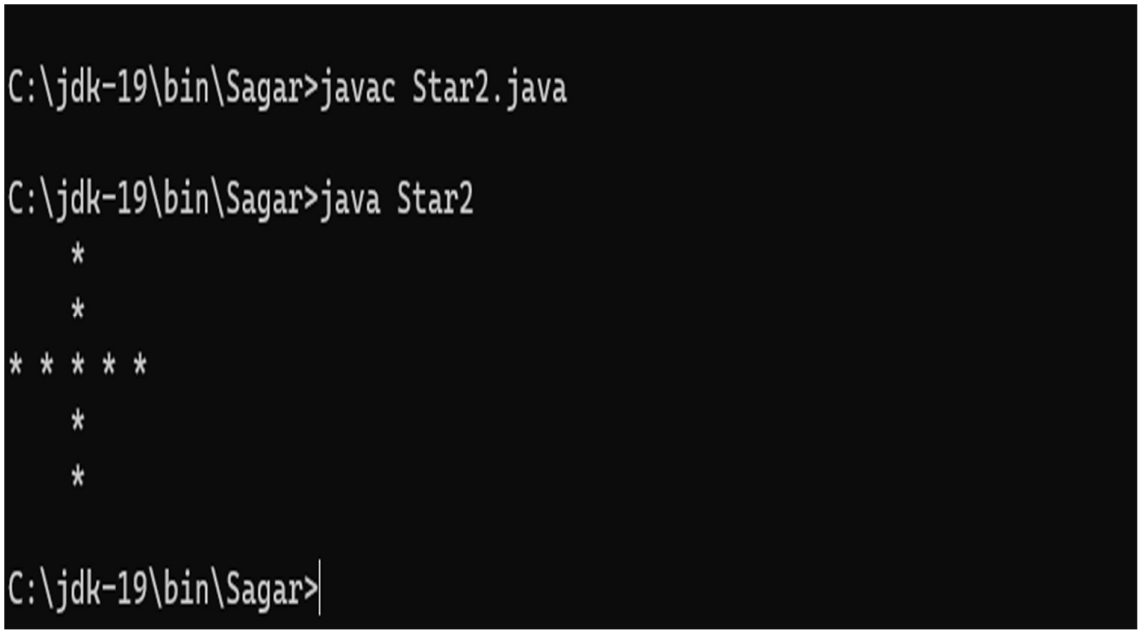
Output :-


C:\jdk-19\bin\Sagar>javac Star2.java
C:\jdk-19\bin\Sagar>java Star2
* * * * *
* * * * *
* * * * *
* * * * *
* * * * *
C:\jdk-19\bin\Sagar>

18. Rhombus Pattern

```
public class Star2 {
   public static void main(String[] args) {
      int n = 5;
      for (int i = 1; i <= n; i++) {
         for (int j = 1; j <= n - i; j++) {
            System.out.print(" ");
         }
         for (int k = 1; k <= n; k++) {
            System.out.print("* ");
         }
         System.out.println();
      }
   }
}
```

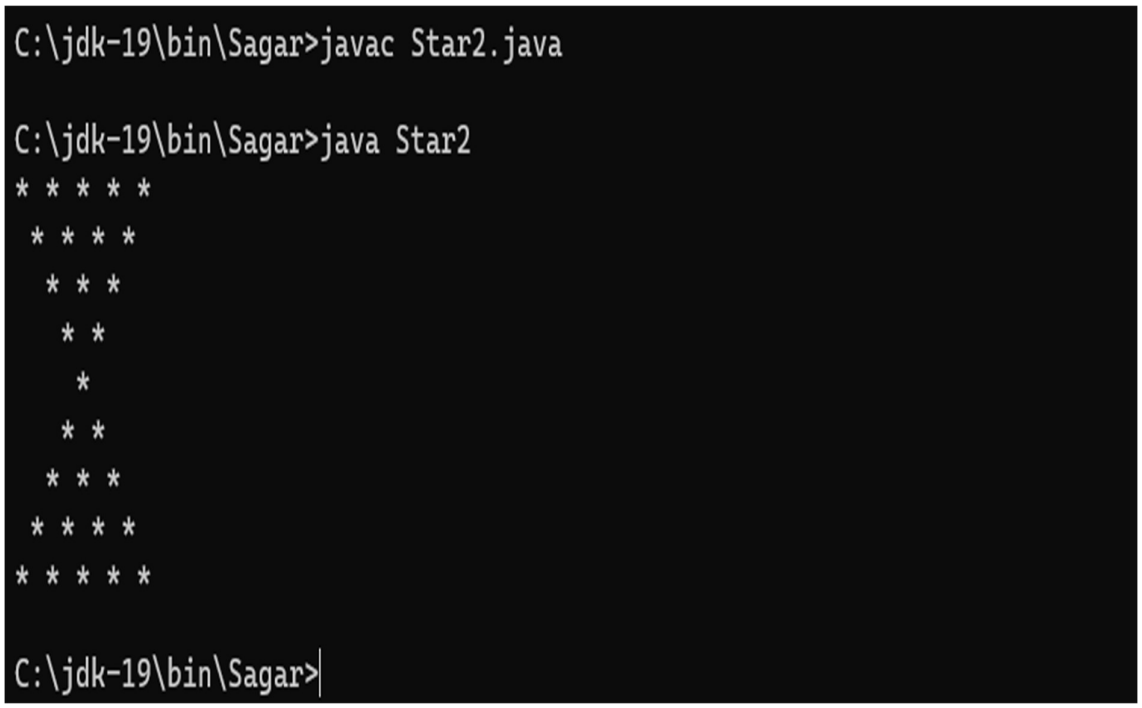
Output:-


C:\jdk-19\bin\Sagar>javac Star2.java
C:\jdk-19\bin\Sagar>java Star2
*
*
* * * * *
*
*
C:\jdk-19\bin\Sagar>

19. Plus Star Pattern

```
public class Star2 {
    public static void main(String[] args) {
        int n = 5;
        for (int i = 1; i <= n; i++) {
            for (int j = 1; j <= n; j++) {
                if (i == n / 2 + 1 || j == n / 2 + 1) {
                    System.out.print("* ");
                } else {
                    System.out.print("  ");
                }
            }
            System.out.println();
        }
    }
}
```

Output :-


C:\jdk-19\bin\Sagar>javac Star2.java
C:\jdk-19\bin\Sagar>java Star2
* * * * *
* * * *
* * *
* *
*
* *
* * *
* * * *
* * * * *
C:\jdk-19\bin\Sagar>

20. Sandglass Star Pattern

```
public class Star2 {
    public static void main(String[] args) {
        int n = 5;
        for (int i = n; i >= 1; i--) {
            for (int j = n; j > i; j--) {
                System.out.print(" ");
            }
            for (int k = 1; k <= i; k++) {
                System.out.print("* ");
            }
            System.out.println();
        }
        for (int i = 2; i <= n; i++) {
            for (int j = n; j > i; j--) {
                System.out.print(" ");
            }
            for (int k = 1; k <= i; k++) {
                System.out.print("* ");
            }
            System.out.println();
        }
    }
}
```