Page 103, *Java Programming A Comprehensive Introduction*

Explain the execution of the following Nested **while** loops

```java
for (int a =0; a <3; a++){

        System.out.println("Outer loop count: " + a);

        System.out.print("     Inner loop count: ");


        int t = 0;

        while(t<100){

           if(t == 10) break;

        System.out.print(t + " ");

        t++; }

         System.out.println();

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

First It would loop the 1st time of outerloop, and go to the inner loop and print 1 to 9

Then It would loop the 2nd times of outerloop, and go to the inner loop and print 1 to 9

Next it would loop the 3rd times of counter loop, and go to the inner loop and print 1 to 9

At the last, it would print loops complete.

Programming Assignments

Page 116 #20, *Java Programming A Comprehensive Introduction*

Task 1: Print the following combination of stars using a **for** loop nested inside a **for** loop. Then a **while** loop nested inside a **for** loop.

Each letter will have two separate programs that produce the same output.

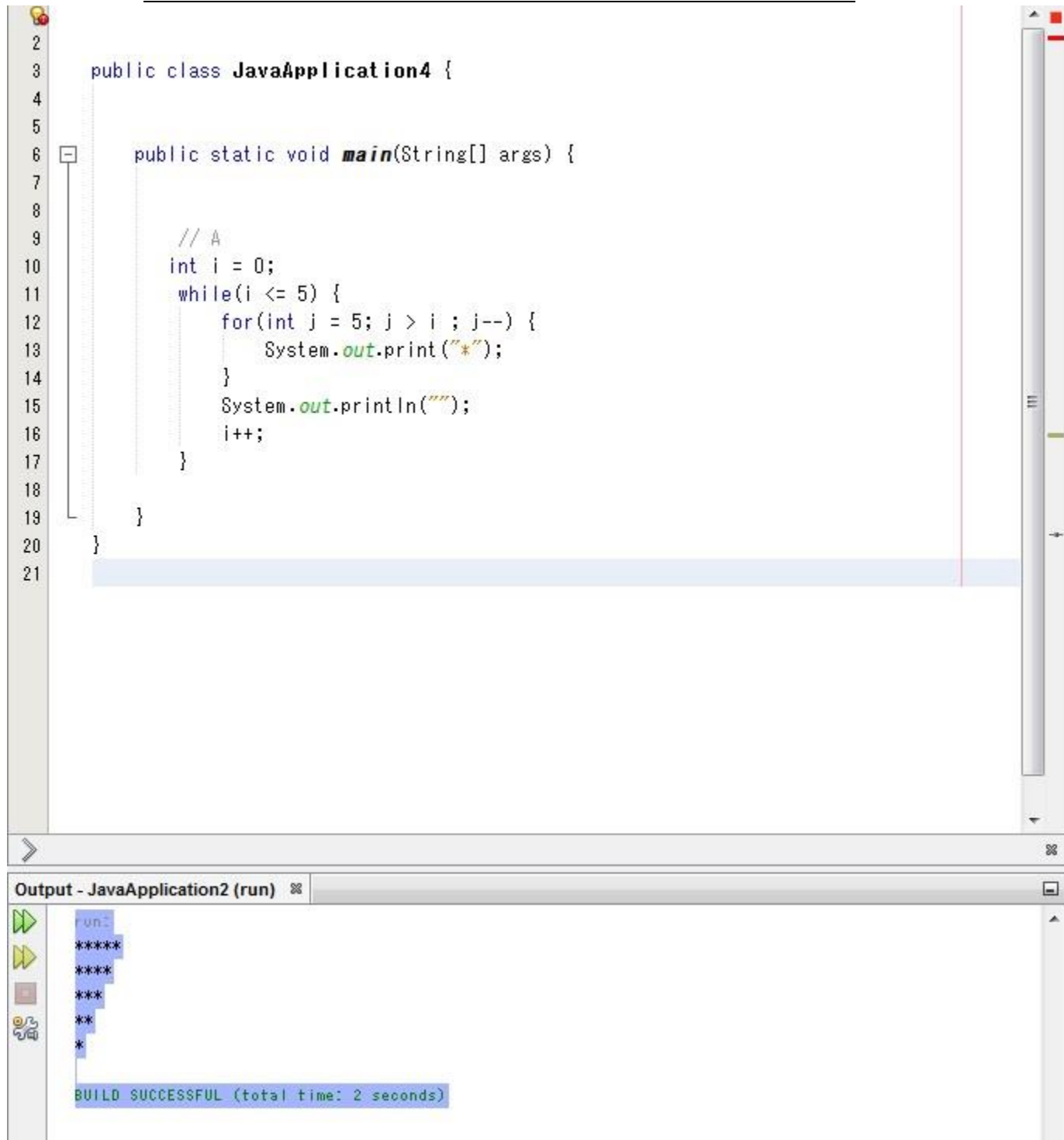Attach Snipping photo of the source code for all 6 exercises and output.

A.

*****

****

***

**

*

```java
public class JavaApplication4 {


    public static void main(String[] args) {



        // A
        for(int i = 0; i <= 5; i++) {

            for(int j = 5; j > i ; j--) {

                System.out.print("*");
            }
            System.out.println("");
        }

    }
}
```

JavaApplication4 » main » for (int i = 0; i <= 5; i++) » for (int j = 5; j > i; j--) »

Output - JavaApplication2 (run)

```
run:
*****
****
***
**
*

BUILD SUCCESSFUL (total time: 1 second)
```

```
2
3       public class JavaApplication4 {
4
5
6         public static void main(String[] args) {
7
8
9             // A
10            int i = 0;
11            while(i <= 5) {
12                for(int j = 5; j > i ; j--) {
13                    System.out.print("*");
14                }
15                System.out.println("");
16                i++;
17            }
18
19        }
20    }
21
```

Output - JavaApplication2 (run)

```
run:
*****
****
***
**
*

BUILD SUCCESSFUL (total time: 2 seconds)
```
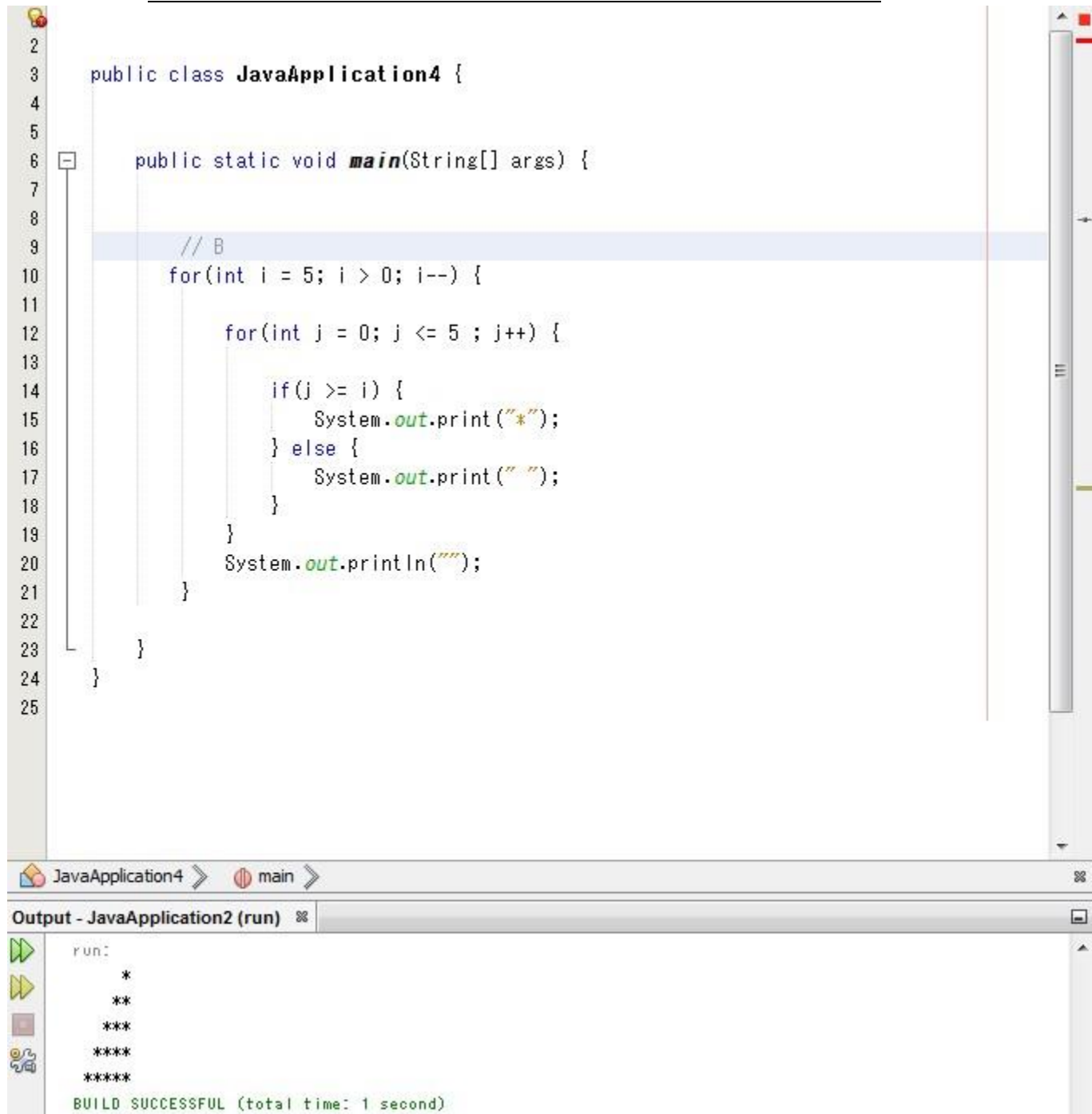
B.

```
    *

**
```

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```
  ***

 ****

*****
```

```java
public class JavaApplication4 {


    public static void main(String[] args) {


        // B
        for(int i = 5; i > 0; i--) {

            for(int j = 0; j <= 5 ; j++) {

                if(j >= i) {
                    System.out.print("*");
                } else {
                    System.out.print(" ");
                }
            }
            System.out.println("");
        }

    }
}
```

JavaApplication4 › ◑ main ›

Output - JavaApplication2 (run) ✕

```
run:
     *
    **
   ***
  ****
 *****
BUILD SUCCESSFUL (total time: 1 second)
```

```java
2
3      public class JavaApplication4 {
4
5
6          public static void main(String[] args) {
7
8
9              // B
10             int i = 5;
11             while(i > 0){
12                 for(int j = 0; j <= 5 ; j++) {
13                     if(j >= i) {
14                         System.out.print("*");
15                     } else {
16                         System.out.print(" ");
17                     }
18                 }
19                 System.out.println("");
20                 i--;
21             }
22
23         }
24     }
25
```

JavaApplication4 > main > i >

Output - JavaApplication2 (run) ✕

```
run:
     *
    **
   ***
  ****
 *****
BUILD SUCCESSFUL (total time: 1 second)
```

C.

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

 ********

  ******

   ****
```

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```java
public class JavaApplication4 {


    public static void main(String[] args) {


        // C
        for(int i =  10; i > 1; i--) {
            for(int j = 10; j > 0; j--) {
                if(i >= j && i % 2 == 0) {
                    System.out.print("*");
                } else {
                    System.out.print("");
                }
                System.out.print(" ");
            }
            System.out.println();
        }

    }
}
```

JavaApplication4 > main > for (int i = 10; i > 1; i--) > for (int j = 10; j > 0; j--) > if (i >= j && i % 2 == 0) e

Output - JavaApplication2 (run) ✕

```
run:
* * * * * * * * * *

  * * * * * * * *

    * * * * * *

      * * * *

        * *
BUILD SUCCESSFUL (total time: 1 second)
```

```java
public class JavaApplication4 {


    public static void main(String[] args) {


        // C
        int i = 10;
        while(i > 1){
            for(int j = 10; j > 0; j--) {
                if(i >= j && i % 2 == 0) {
                    System.out.print("*");
                } else {
                    System.out.print("");
                }
                System.out.print(" ");
            }
            System.out.println();
            i--;
        }
    }
}
```

JavaApplication4 ＞ main ＞

Output - JavaApplication2 (run) ✖

```
run:
* * * * * * * * * *

 * * * * * * * *

  * * * * * *

   * * * *

    * *
BUILD SUCCESSFUL (total time: 1 second)
```