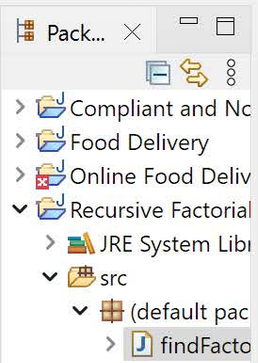


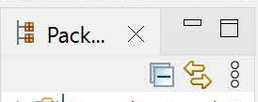
findFactorial.java

```java
import java.util.Scanner;

public class findFactorial {
    public static int recursiveFactorialA(int n) {
        if (n==0) {
            return 1;
        }
        return(n*(recursiveFactorialA(n-1)));
    }

    public static int recursiveFactorialB(int n) {
        if (n==1) {
            return 1;
        }
        return(n*(recursiveFactorialB(n-1)));
    }

    public static void main(String[] args) {
        try (Scanner theDude = new Scanner(System.in)) {
            System.out.println("What integer would you like to find the factorial for?");
            System.out.println();
            System.out.print("Enter integer here: ");
            int n = theDude.nextInt(); theDude.nextLine();
            System.out.println();
            System.out.println("Method 1: The factorial of " + n + " is " + recursiveFactorialA(n) + ".");
            System.out.println("Method 2: The factorial of " + n + " is " + recursiveFactorialB(n) + ".");
        }
    }
}
```



findFactorial.java

```
7           }
8           return(n*(recursiveFactorialA(n-1)));
9       }
10
11      public static int recursiveFactorialB(int n) {
12          if (n==1) {
13              return 1;
14          }
15          return(n*(recursiveFactorialB(n-1)));
16      }
17
18      public static void main(String[] args) {
19          try (Scanner theDude = new Scanner(System.in)) {
20              System.out.println("What integer would you like to find the factorial for?");
21              System.out.println();
22              System.out.print("Enter integer here: ");
23              int n = theDude.nextInt(); theDude.nextLine();
24              System.out.println();
25              System.out.println("Method 1: The factorial of " + n + " is " + recursiveFactorialA(n) + ".");
26              System.out.println("Method 2: The factorial of " + n + " is " + recursiveFactorialB(n) + ".");
27          }
28      }
29  }
30
```

Problems Javadoc Declaration Console

<terminated> findFactorial [Java Application] C:\Users\manga\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_17.0.3.v20220515-1416\jre\bin\javaw.exe (Sep 25, 2022, 9:06:43 PM – 9:06:45 PM) [pid: 14620]

```
What integer would you like to find the factorial for?

Enter integer here: 10

Method 1: The factorial of 10 is 3628800.
Method 2: The factorial of 10 is 3628800.
```

eclipse-workspace - Recursive Array/src/recursiveArray.java - Eclipse IDE

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  - JRE System Libı
  - src
    - (default pac
      - recursive
- Recursive Factorial

findFactorial.java | recursiveArray.java

```java
import java.util.Arrays;

public class recursiveArray {

    public static void reverseArray(int arr[], int first, int last) {
        if (last < first) {
            return;
        }
        else {
            System.out.print(arr[last] + " ");
            reverseArray(arr, first, last-1);
        }
    }

    public static void main(String[] args) {
        int arr[] = {1, 2, 3, 4 , 5, 6};
        System.out.print("These are the integers found between indexes 1 to 3 of the array: ");
        reverseArray(arr, 1, 3);
        System.out.println();
        System.out.println("Note: the integers are displayed in reverse order.");
    }

}
```

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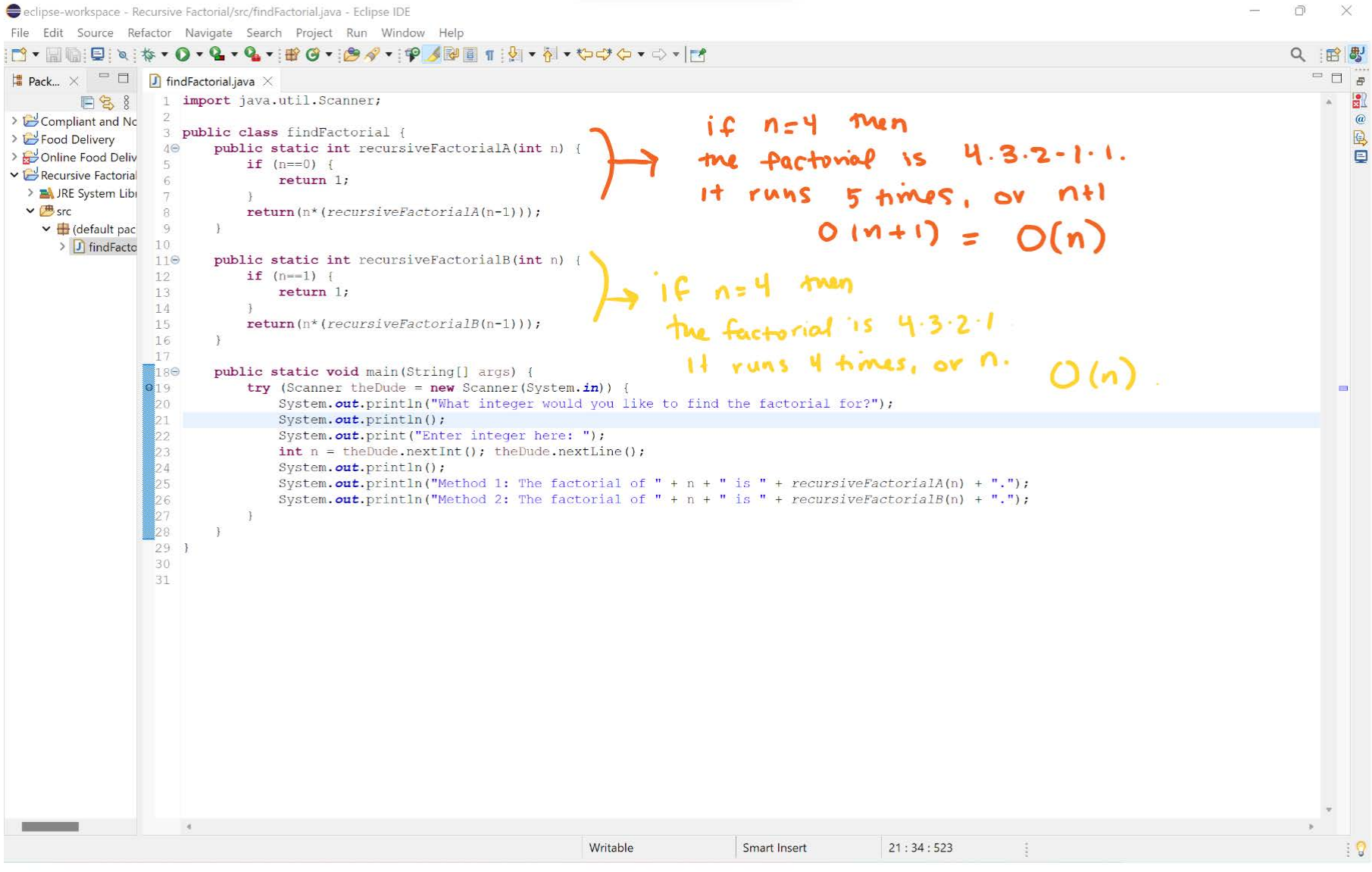
findFactorial.java | recursiveArray.java

```java
import java.util.Arrays;

public class recursiveArray {

    public static void reverseArray(int arr[], int first, int last) {
        if (last < first) {
            return;
        }
        else {
            System.out.print(arr[last] + " ");
            reverseArray(arr, first, last-1);
        }
    }

    public static void main(String[] args) {
        int arr[] = {1, 2, 3, 4 , 5, 6};
        System.out.print("These are the integers found between indexes 1 to 3 of the array: ");
        reverseArray(arr, 1, 3);
        System.out.println();
        System.out.println("Note: the integers are displayed in reverse order.");
    }

}
```

Problems | Javadoc | Declaration | Console


```
These are the integers found between indexes 1 to 3 of the array: 4 3 2
Note: the integers are displayed in reverse order.
```

exercise #4


eclipse-workspace - Recursive Factorial/src/findFactorial.java - Eclipse IDE
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findFactorial.java
1 import java.util.Scanner;
2
3 public class findFactorial {
4 public static int recursiveFactorialA(int n) {
5 if (n==0) {
6 return 1;
7 }
8 return(n*(recursiveFactorialA(n-1)));
9 }
10
11 public static int recursiveFactorialB(int n) {
12 if (n==1) {
13 return 1;
14 }
15 return(n*(recursiveFactorialB(n-1)));
16 }
17
18 public static void main(String[] args) {
19 try (Scanner theDude = new Scanner(System.in)) {
20 System.out.println("What integer would you like to find the factorial for?");
21 System.out.println();
22 System.out.print("Enter integer here: ");
23 int n = theDude.nextInt(); theDude.nextLine();
24 System.out.println();
25 System.out.println("Method 1: The factorial of " + n + " is " + recursiveFactorialA(n) + ".");
26 System.out.println("Method 2: The factorial of " + n + " is " + recursiveFactorialB(n) + ".");
27 }
28 }
29 }
30
31
if n=4 then
the factorial is 4·3·2·1·1.
it runs 5 times, or n+1
O(n+1) = O(n)
if n=4 then
the factorial is 4·3·2·1
it runs 4 times, or n.
O(n)
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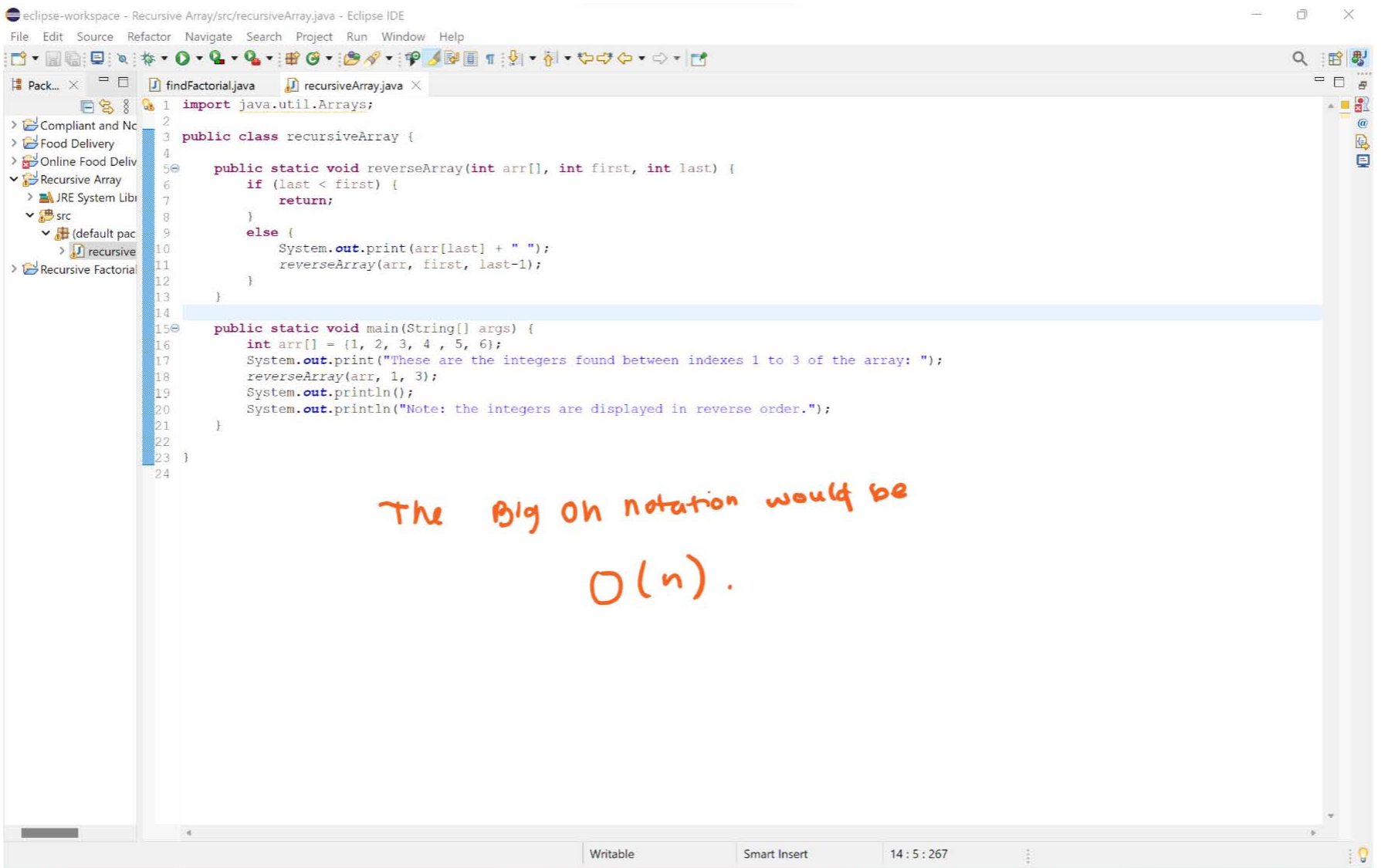
exercise #5



The Big Oh notation would be

$O(n)$.