

COP 3503 Fall 2026 Section 201 Program 2 Directions

This program is testing the use binary index trees. Specifically, you will need to create a binary index tree class and use two separate binary index tree objects. In addition, you will need to write a prime sieve, which should have been taught in COT 3100.

As mentioned, you must declare a separate class, a binary index tree class, to your main class. The main class will handle the I/O and potentially creating objects and calling methods on objects. Please make sure to design both the appropriate class methods and separate helper methods.

You will still be graded on standard style issues as well as commenting. Your program should have a header comment as well as a reasonable amount of internal comments. In addition, do strive to use reasonable variable names, but it's likely we'll be somewhat lenient on this particular issue.

Please read your input from standard input. Do NOT prompt the user to enter anything.

Please provide your output to standard output.

Your program will process one file with many test cases. You will get credit only for the test cases that complete within the given time limit which also produce a correct answer.

Deliverables

1. Please submit your source file and call it **oranges.java**. (Note: Webcourses automatically adds version numbers to the end of your files if you resubmit. Don't worry about this. The grader will fix it.)
2. Please submit a short write-up discussing your development of the program, any interesting observations you made while working on the program, any hurdles you faced and how you overcame those hurdles. This should be submitted in a file called **P3-commentary.pdf**.