

Intro to Programming - Java, Part 2



How to Take this Course

Complete all of the quizzes and the assignment in each unit. Once the quizzes for a unit are complete, you will have access to the **unit test**. Read the full course instructions so you understand [how this course works](#).

-  [How This Course Works](#)
-  [Instructions for the Course](#)
-  [Ask The Teacher](#)

Meet your teacher for this course and ask a question.

1. Testing & Debugging

In this unit you will learn:

- Some techniques for finding errors in your code.
- A method of manually tracing how your code will execute.
- Techniques for debugging your programs.

	1.1 Finding Errors	☐
	1.1 Quiz	☐
	1.2 Hand Tracing Code	☐
	1.2 Quiz	☐
	1.3 Debugging	☐
	1.3 Quiz	☐
	Unit 1 Assignment	☐

 Unit 1 Test

Restricted Not available unless:

- The activity **1.1 Quiz** is marked complete
- The activity **1.2 Quiz** is marked complete
- The activity **1.3 Quiz** is marked complete

2. Analyzing Algorithms

In this unit you will learn how, in theoretical computer science, we are most interested in how algorithms behave for large inputs. The big O notation, and its relatives, the big Theta, the big Omega, the small o and the small omega are ways of saying something about how a function behaves at a limit point (for example, when approaching infinity, but also when approaching 0, etc.) without saying much else about the function. They are commonly used to describe running space and time of algorithms. Big O, Big Theta and Big Omega are often all used to measure the worst case scenario (this is most often the case). They could also all be used to measure an average case (this happens often) and the best case (we rarely care about best cases). The measurements of Big-O, Big-Theta, and Big-Omega would often be different depending on which case was picked.

 2.1 Big O



 2.1 Quiz



 2.2 Big Omega



 2.2 Quiz



 2.3 Big Theta & How it Relates to Big O & Big Omega



 2.3 Quiz



 Unit 2 Assignment



 Unit 2 Test

Restricted Not available unless:

- The activity **2.1 Quiz** is marked complete
- The activity **2.2 Quiz** is marked complete
- The activity **2.3 Quiz** is marked complete
- The activity **Unit 1 Assignment** is marked complete

3. Number Systems

In this unit you will learn about the following number systems, and where they are used in computer science:

- Binary.
- Hexadecimal.
- Octal.

 3.1 Binary



 3.1 Quiz



 3.2 Hexadecimal



 3.2 Quiz



 3.3 Octal



 3.3 Quiz



 Unit 3 Assignment



 Unit 3 Test

Restricted Not available unless:

- The activity **3.1 Quiz** is marked complete
- The activity **3.2 Quiz** is marked complete
- The activity **3.3 Quiz** is marked complete
- The activity **Unit 2 Assignment** is marked complete

4. Searching and Sorting

In this unit you will learn about the following searching and sorting techniques:

- Sequential search.
- Binary search.
- Selection sort.
- Insertion sort.
- Merge sort.

 4.1 Sequential Search	☐
 4.1 Quiz	☐
 4.2 Binary Search	☐
 4.2 Quiz	☐
 4.3 Selection Sort	☐
 4.3 Quiz	☐
 4.4 Insertion Sort	☐
 4.4 Quiz	☐
 4.5 Merge Sort	☐
 4.5 Quiz	☐

 Unit 4 Assignment	☐
--	--------------------------

 Unit 4 Test	
Restricted Not available unless:	
• The activity 4.1 Quiz is marked complete • The activity 4.2 Quiz is marked complete • The activity 4.3 Quiz is marked complete • The activity 4.4 Quiz is marked complete • The activity 4.5 Quiz is marked complete • The activity Unit 3 Assignment is marked complete	

The Final Exam

Complete all of the assignments and unit tests in this course. Once they are complete and the assignments have been graded, the Final will be made available and appear below the [Practice Final](#).

Warning: You have only ONE attempt at the Final. You must score 60% or higher in the Final to receive credit for the course!

Are you ready to take the Final? We highly recommend you take the [Practice Final](#) first and if you are weak in any area, review the relevant course material again. You have unlimited attempts at the [practice final](#); it will help you to prepare.

Good Luck!!

 Final Assignment	☐
---	--------------------------

 Practice Final	☐
---	--------------------------

 Final Exam	
Restricted Not available unless:	
• The activity Unit 1 Test is marked complete • The activity Unit 2 Test is marked complete • The activity Unit 3 Test is marked complete • The activity Unit 4 Test is marked complete • The activity Unit 4 Assignment is marked complete • The activity Final Assignment is marked complete	

- The activity **Final Assignment** is marked complete

Course Completion

The "Certificate" and "Transcript Request" links below are not active, they cannot be accessed until you have achieved at least 60% on both the final and for the course total. Upon satisfying these two requirements, the links will become active and you can use them.

Before you go, we would appreciate your opinion on the course, please take 1 minute to complete the feedback form. We hope you enjoyed this course!

Course Feedback

Thank you for taking this course! Let us know what you think about it.

Request a Course Completion Record

Restricted Not available unless:

- You achieve a required score in **Course total**
- You achieve a required score in **Final Exam**