



# Get Smart: Java Programming

The Algorithm Of Success

2021 - 2022

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# Overview

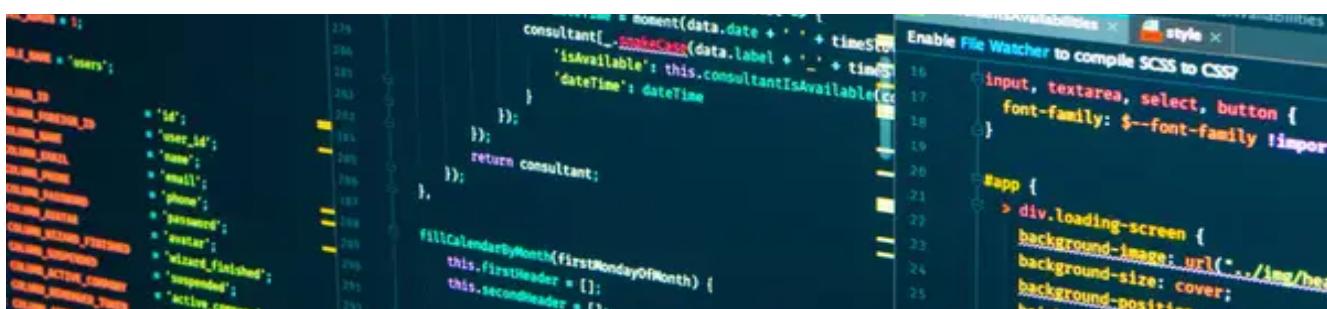
Learning how to program is essential to participate in the world around you. If you live in a world where everything is mediated through computers and software you need to be “literate” in the techniques that technology works, not to become disempowered and exploited by those who do understand and control it, in other words if you can’t participate you will become a second class citizen.

Everything in modern life is mediated through software and online services; your work, your shopping, socializing with friends, entertainment, storing your memories, your notes, and so on.

The ultimate goal of the “*Get Smart: Java Programming*” course is to equip our amazing students with the right skills they need to build enterprise-scale applications with Java - which is among the top three programming languages in the world.

Our mission is to train our students for the jobs of the future, and to make programming skills accessible and convenient for everyone in the most efficient way to master the skills tech companies want, or even if you are here just for basic knowledge or to be literate and polished, we guarantee you to earn the skills you are looking for.

Technology plays a crucial role in our economy — programming is no longer limited for software engineers and computer scientists, today anyone can benefit from the power of programming and regardless of your field of work or industry, for sure you will love this course.



# Goals

A graduate of this program will be able to:

- Get prepared to be a skilled developer.
- Understand the fundamentals of programming concepts, while being introduced to tons of real-life examples.
- Understand some computer science important topics such as:
  - Memory Concepts, RAM, CPU, Bits and Data Representation
- Build a strong knowledge about the concept of OOP
  - Understand OOP concepts such as inheritance, encapsulation, and abstraction.
  - Learn how to write code using best practices and SOLID principles.
- Build real-life projects using the power of Java.
  - Mini Projects to understand each subject.
  - Large Projects to understand the big picture.
- How to land a job.
  - Prepare for your Java interview
  - Skills to mention
  - Where and how to apply to different positions
- Get ready for the big certification (Java SE Certification)



# Specifications (The full syllabus in a easy to understand form)

SO, WHAT EXACTLY ARE WE GOING TO LEARN HERE?

## The Entrance Is Here

We will start off our journey by exploring some interesting computer science and software engineering concepts and take a look at some interesting real-life examples and understand why everyone should learn how to code.

Next we'll prepare the tools we will need throughout this course and we'll have a small discussion about them. Now our workspace is ready, so it's time to introduce some memory concepts and revise our arithmetic basics - don't worry it's just simple algebra here, and the good news is that the computer will do all the calculations for you in just no time, isn't that satisfying?

After this I guess it's time to talk a bit about input and output statements to start implementing our first program. **«HELLO WORLD!!! I'M A NOW A PROGRAMMER...»**

Now for the second part of the course, how about we let the computer make decisions based on some kind of conditions? Not sure what this is? No problem, we'll discuss it throughout the course. After this decision part let's get to what I call the "lazy programmer" part, here we will introduce the repetitions statements, or what programmers call "LOOPS", here we get to repeat a single instructions or multiple instructions as much as we want, WOW!!! isn't this awesome? Think of it as like we are writing code to repeat the process of cleaning the house, that's why I earlier called it the "lazy programmer" part. We'll end this part with a small project.

## OOP (EVERYTHING IS AN OBJECT ??? CLASSES ??? POLYMORPHISM ???)

So what is OOP? Object oriented programming? Don't worry when we get to this part you will see how it's so easy and so interesting, I'm sure that you will love this part.

We will construct a class, add some attributes, methods, behavior and much more. Then we will create an object from that class. So imagine a class of type "Vehicle", then inheriting another class of type "Car", then creating an object of type "Mercedes", mmm!!! Not comfortable with this? It's fine, I'll be happy teaching you all about this in full detail.

## Deep Dive (The Fun Begins)

Now we know all the basics, let's get our hands dirty with some hard tasks and advanced topics.

We will work on real world tasks using best practices and design patterns, to ensure that the code is stable, reusable, and scalable.

# Milestones

## I. Introduction

What is a program? code? What is programming? Why should we care? And many more ...

## II. First Java Program

We can now receive some input from the user, then process this information, to get some output. Isn't this amazing? Some more magic happens when playing around with this data.

## III. Decisions and Repetition

Learn how to control the flow of the program by using conditions and loops.

## IV. Methods and Functions

DRY!!! Don't Repeat Yourself, we'll learn all about this and much more. Remember this little secret called 'Recursion' ... So much fun and thinking here.

## V. Object-Oriented Programming Basics

What is object oriented programming? What are the benefits of using OOP? What are objects? What is a class? What are constructors used for?

## VI. Object-Oriented Programming Pillars and Advanced Topics

Abstraction, encapsulation, inheritance, and polymorphism (Fact: Poly means many, while morphism means different forms or structures).

## VII. Data Structures, Collections and Algorithms

In this section we will have our minds blown out, we will need to concentrate and listen carefully, we will take a deep dive into Arrays, linked lists, stacks, maps and many more. Also we will introduce some famous algorithms, understand them, and compare them.

## VIII. Miscellaneous (Error Handling, File Input/Output, Threads, Networks)

Filling the gaps, connecting the dots, dealing with different concepts.

## IX. Bonus (GUI, Database, Web, Selenium, Design Patterns, GIT)

Wrapping up, exploring some domains that Java is used in by doing.

## X. Becoming the master

By this stage, you are now able to go into Stack Overflow and dev communities and share what you've learned. You will see questions from others and you'll be able to answer them. This is when you've made the journey from student to master.

## XI. You'll still have a lot to learn (+Interviews)

The greatest lesson I've learned in life is that I always still have a lot to learn, and direction is much more important than speed. We will discuss where to go from here, and talk about the different jobs and positions, how to write a strong CV, and some interview tips.

# Our Classroom Experience

We've crafted our entire learning path to be the most effective way to learn employable job skills in the careers of the future.

- Learn by doing
- Job-focused content
- Project-based, active learning
- Real-life tasks
- Quizzes, Labs, Fun Assignments

## Your Host (Yaman Omar Alashqar)

A skilled fullstack developer, who never loses the desire to learn and improve his talents. Focused on delivering business value through high-quality, dynamic, secure, and scalable web applications. Equipped with a diverse and promising skill-set in trending technologies.

I've scoured the Internet down to the deepest layer finding invaluable blog posts, articles, resources, curating countless bookmarks, watching every tutorial , and everything else to learn what I have learned.

I've invested thousands of hours of my own sweat and labor, crafting, researching, and building the perfect course for you that gives you the same experience as when you drive a Rolls Royce. This material is well researched, tested, and proven.



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# FAQ

## WHY SHOULD I ENROLL?

Java is one of the most popular programming languages in the world, and a majority of large enterprise softwares rely on Java.

## HOW DO I KNOW IF THIS PROGRAM IS RIGHT FOR ME?

If you are interested in building out the infrastructure that powers and supports the many web, desktop, mobile, and integrated applications in the business world, this program is a great fit for you. Additionally, if you are a developer who doesn't have any back-end experience, or a back-end developer who doesn't know Java, this is a great place to build upon your existing skill set.

## Java SE Certification

A Java certification is a validation of your skills and a culmination of training, practice, and experience. With a certification in-hand, you have a clear way to show employers how and why you are prepared for the job. Also, with Java being the #1 programming language, you'll have an enormous supportive community and robust documentation.

