

Part 1 - Programming Languages

- 1) C++: **(4/5)**
 - a) [C++ for Complete Beginners](#)
 - b) [Advanced C++](#)
- 2) Java: **(4/5)**
 - a) [Java: The Complete Java Developer Course](#)
- 3) Python: **(4/5)**
 - a) [Python Fundamentals](#)
 - b) [Python - Beyond the basics](#)
 - c) [Advanced Python](#)
- 4) JavaScript: **(4/5)**
 - a) [JavaScript: The Advanced Concepts](#)
- 5) TypeScript: **(4.5/5)**
 - a) [TypeScript: The Complete Developer's Guide](#)
- 6) Golang: **(4.5/5)**
 - a) Language Basics
 - b) On the run (Advanced series)
- 7) C#: **(4/5)**
 - a) C# Fundamentals
 - b) Advanced C#
- 8) Scala: **(5/5)**
 - a) Introduction to Programming & Problem Solving using Scala
 - b) Object-Orientation, Abstraction & Data Structures using Scala
- 9) Haskell: **(4.5/5)**
 - a) Programming in Haskell by Graham Hutton
 - b) Advanced Functional Programming by Graham Hutton
 - c) Extra - Functional Programming in Haskell by NPTEL
 - d) Extra - Scheming in Haskell

#Opinion:

The course for C programming language hasn't been provided. You may learn that language on your own if you want or you can skip it and directly jump on C++. The first language that you choose to learn should be one of these two - C++ and Java.

C++ language has a steep learning curve and is used only in a few organizations. One of the major uses of C++ is for solving DSA problems during programming contests. Learning C++ would speed up the learning process of Java, Go, JS and other languages as well. But if you want, you can skip C++ and directly start with Java. However if you do so, you won't understand the concept of Pointers which is a part of some languages like Go.

If you have decided to skip C++, then Java is a must pick language. Java is an evergreen language and extensively used in the industry. So there are high chances that you will use it in your job. Also, just like how learning C++ makes learning Go easier, learning Java would make learning C# (which is syntactically similar to Java) and Scala (which is related to Java) easier.

Assuming you know either C++ or Java (or both), you should next start with Python. One of the most powerful languages which is literally used everywhere - from web development to machine learning and data science. One of the must know programming languages.

If you want to do something related to the web, JavaScript is a must. While knowing JS is enough to survive in the webdev world, if you know TypeScript as well, which is the superset of JS, you might create wonders with the JS + TS combo.

Golang, a language which is efficient like C and powerful like Python. It is one of the most prominent languages in the Cloud world. If you know C and C++, I would say Go is a must try for you.

C#, you may need to learn this if you want to develop some software for Windows or your job demands it. In corporate world, the backend of websites is either made up of Java (Spring Boot framework) or C# (.NET framework). So if you know C++/Java, Python/JS, there is no need to learn this language unless one of the above two situations forces you to learn this language.

Scala. If you know Java, then learning Scala is a must in my opinion. Scala is powerful and was designed with the goal to remove all the shortcomings of Java. So Scala is nothing but a better Java. Haskell is just a very unique programming language (very mathematics oriented) and you could learn it just for fun. No other reason really.

Path 1: C/C++ - (Java Optional) - Python - JS - Go

[Good for Cloud Computing Roles]

Path 2: Java - Python - JS - TS - (C# Optional)

[Good for Web Development Roles]

Path 3: Java - Python - Scala

[Good for Data Science/ML Roles]

Path 4: (Learn as many as you can!) XD

[Good in everything!]

Part 2 - Problem Solving

DSA Topics List:

https://docs.google.com/document/d/1Mm4OmcxDwb3_6Nt8i-xpmi-42_PH6i9YcDvICvGL3Nk/e/dit?usp=sharing

DSA Reading Material:

<https://drive.google.com/drive/folders/1TznSHLz1h9ZMoqgHzTvkol8ZSUyQtwWi?usp=sharing>

DSA Course for Interview Preparation and Competitive Programming:

https://drive.google.com/drive/folders/1aYb4DMI1wcCBy_toaTVgdwTEGzO_uLu?usp=sharing

Playlists that I would recommend you to watch on Youtube:

- [NPTEL IIT KGP - Programming and Data Structure](#) (Basics)
- [MIT 6.006 - Introduction to Algorithms](#) (Basics)
- [MIT 6.046 - Design and Analysis of Algorithms](#) (Intermediate)
- [MIT 6.S095 - Programming for the Puzzled](#) (Intermediate)
- [MIT 6.851 - Advanced Data Structures](#) (Advanced)

Part 3 - Databases

SQL:

[15-445/645 Intro to Database Systems \(Fall 2018\)](#)

[15-721 Advanced Database Systems \(Spring 2019\)](#)

[Advanced SQL \(summer 2020\)](#)

NoSQL (MongoDB):

[M001: MongoDB Basics](#)

[M100: MongoDB for SQL Pros](#)

[M103: Basic Cluster Administration](#)

[M112: Diagnostic Thinking](#)

[M121: The MongoDB Aggregation Framework](#)

[M150: Authentication & Authorization](#)

[M201: MongoDB Performance](#)

[M220J: MongoDB for Java Developers](#)

[M220JS: MongoDB for JavaScript Developers](#)

[M220P: MongoDB for Python Developers](#)

[M312: Diagnostics and Debugging](#)

[M320: Data Modeling](#)

[A131: Introduction to MongoDB Charts](#)

[A300: Atlas Security](#)

NoSQL (Cassandra):

[Academy DS101 Introduction to Apache Cassandra™](#)

[Academy DS201 Foundations of Apache Cassandra](#)

[Academy DS210 Operations with Apache Cassandra](#)

[Academy DS220 Data Modeling with Apache Cassandra](#)

[Academy DS310 DataStax Enterprise 6 Search](#)

[Academy DS320 DataStax Enterprise Analytics](#)

[Academy DS330 DataStax Enterprise 6 Graph](#)

[Academy DS332 DataStax Enterprise 6 Graph Analytics](#)

Part 4: Networking

If you want you can avoid going into depth of the Network. Just for an intuitive understanding of what networking is, refer to the following playlist.

[July 2019-Demystifying Networking](#)

Part 5: Operating Systems

Refer to the following playlists.

[Operating Systems by PKBiswas Sir](#)

[Operating Systems - NPTEL IITD](#)

[Electronics - Linux Programming & Scripting](#)

[Bash Scripting Full Course 3 Hours](#)

Part 6: Development

Web Development

Android Development

Part 7: Software Development

Refer to the following playlists.

[Design Patterns in Object Oriented Programming](#)

[Design Patterns Video Tutorial](#)

[Computer Sc - Software Engineering](#)

[Software testing](#)

[Unit Testing in Java with Junit](#)

[Intro To JavaScript Unit Testing & BDD \(2 Hour+ Course\)](#)

[Postman For Beginners \(Rest API Testing\)](#)

[Postman Beginner's Course - API Testing](#)

[Cypress Web Automation](#)

[Selenium WebDriver with Java](#)

[Selenium with Python](#)

Part 8: Cloud and DevOps

Part 9: Mathematics

Part 10: Machine Learning, Data Science and AI

MY SKILLS

Programming Languages: C, C++, Java, Python, JS, TS, Go, Scala.