amazon

# Preparing for Your Interviews with Amazon

If you're interested in applying to one of our full-time roles, or in one of our Internship opportunities, we've put this information together to help give you an idea of what types of knowledge we expect some level of familiarity with.

At Amazon.com we're looking for talented engineers that can apply the knowledge that they've learned in school and in industry to solving some of the world's most complicated software problems. As such, our interviews are mainly focused on how well you can use your acquired knowledge to solve real world (or in some cases not so real world) problems. Below is a list of broad areas that we expect people to be familiar with. It's certainly **not required that you memorize all of the information outlined below**, but this should serve as a helpful reference guide for the types of things you might want to brush up on before interviewing with Amazon.com.

## Programming Languages

We do not require that you know any specific language before interviewing for a technical position at Amazon.com, but familiarity with a prominent object oriented language is generally a prerequisite for success. Not only should you be familiar with the syntax of a language like C++, Java, or C#, you should also know some of the language nuances such as how memory management works, what some of the most commonly used collections or libraries are, etc. You should be able to compare languages and talk about the tradeoffs between using language X vs. language Y.

Additionally, it's considered a plus to be familiar with some scripting language such as Perl, Ruby, AWK, etc. It's also nice to know the basics of regular expression as they are now a mainstay in both the object oriented and scripting worlds.

## Data Structures

Most of the work we do involves storing and providing access to data in efficient ways. This necessitates a very strong background in standard data structures. You should know what each of these data structures is and how they're implemented; what their runtimes are for common operations; and under what circumstances it would be beneficial to use one.

The below are in no particular order:

- Array
- Linked List
- Tree (Tree, Binary Tree, Binary Search Tree, etc.)
- Heap
- Hash Table
- Stack
- Queue
- Graphs (both directed and undirected), minimal path

## Algorithms

It's also important to know efficient ways to manipulate data. One great way of doing this is brushing up on some common algorithms. We'll expect that you can apply and discuss the tradeoffs between some commonly used algorithms.

**Binary Search**

**Sorting**

- Bubble Sort
- Merge Sort
- Quick Sort
- Radix/Bucket Sort

**Traversals** (On multiple data structures)

- Depth First Search
- Breadth First Search

## Coding

Expect to be asked to code syntactically correct code – no pseudo code. If you're a bit rusty coding without an IDE or coding in a specific language, it's probably a good idea to dust off the cobwebs and get comfortable coding with pen and paper. The most important thing a software engineer does at Amazon.com is write performing, stable, robust, and well tested code. These are going to be the main criteria by which your code will be evaluated, so make sure that you check for edge cases and common error inputs as well as the "happy paths" through the code.

## Object Oriented Design

Good design is paramount to extensible, bug free, and long living code. It's possible to solve a software problem in an almost limitless number of ways, but when software needs to be robust and extensible, it's important to know some common techniques that help with this. Using object oriented design best practices is one way to build lasting software. You should have a working knowledge of a few

common and useful design patterns (singleton, factory, adapter, bridge, visitor, command, proxy, observer, etc.) as well as know how to write software in an object oriented way with appropriate use of inheritance and aggregation.

## Databases

Most of the software that we write is backed by a database somewhere. A lot of the challenges we face come in to play when interfacing with existing data models and when designing new data models. You should know the basics of how relational databases work, how to design relational database schemas, as well as how to write basic SQL queries against a database.

## Internet Topics

This is Amazon, we're an online company and we expect our engineers to be familiar with, at least, the basics of how the internet works. You might want to brush up on how internet browsers do what they do, DNS lookups, what TCP/IP and HTTP are, sockets, etc. We're not looking for network engineering types of qualifications, but a solid understanding of the fundamentals of how the web works is a requirement.

## Computer Science Fundamentals

You won't need to know how to build your own operating system, but you should be familiar with some OS topics that can affect code performance, such as caching, time sharing, memory management, processes, threads and synchronization, multithreading, deadlocks (causes, detection and avoidance).

## Tips & Tricks for our interviews:

Study the Job Description of the position you want to apply for and prepare some questions about the aspects you want to find more about. We'll definitely be happy to provide you with all the details you need!

Send us an updated resume in English. Make sure to write down the responsibilities you had on each position, the technical skills and knowledge you possess. If you have no previous professional experience, please give us some details about the most interesting projects you worked on as a student or in your free-time.

Be sure that you can speak and provide examples for everything that you state in your CV. For instance, if you state that your preferred programming language is Java, be prepared to answer some questions, as we will be most likely interested to discuss this with you.

If at any time, we can help you with more information, don't hesitate to contact us.