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Why companies like Amazon, Microsoft, Google focuses on Data Structures and Algorithms : Answered

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If you're preparing for a tech interview of any big tech company like Adobe, Amazon, Microsoft, Google, etc. most probably, you would have known about the importance of Data Structures and Algorithms to crack these interviews. Yes, most of the interviews for technical roles in these companies are focused on measuring the **Data Structures and Algorithms** knowledge of the candidates.

So the question arises: **Why do Product Based Companies place so much emphasis on Data Structures and Algorithms?**

LEARNING DATA STRUCTURE & ALGORITHM IS IMPORTANT



Software Product Based Companies normally create products that are related to software. So it stands to reason that they require quality **Software Developers** to handle the development process for the software. The pay-scale of Software Developers has increased a lot in recent times globally. According to the report by Glassdoor, the average base pay of Software Developers in India is found to be around **12 Lakhs per annum**. The average base of software developers ranges from **Rs. 4,00,000** to **Rs 20,00,000** per year (With Product Based Companies occupying the higher end of the spectrum).

Software Development Engineer Salaries

5,121 Salaries Updated 22 Jun 2021

Average Base Pay

₹12L / yr

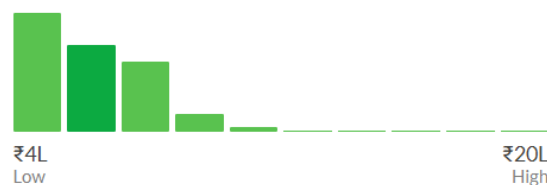


Image Courtesy: Glassdoor

However, there is an acute shortage of well-qualified Software developers in India. As per various standard reports, less than 10% of engineers are actually employable in software-related jobs. **That is where Data Structures and Algorithms come in.** They are so important in Product Based Companies' interviews as they are the hallmark of any good Software Developer.

In addition to that, there are multiple reasons why **Product Based Companies** place so much emphasis on Data Structures and Algorithms as stated below:

1. Data Structures and Algorithms demonstrate the **problem-solving ability** of a candidate. There is no room to craft elaborate stories and this means that either the candidate can solve the problem or they can't.
2. Questions based on Data Structures and Algorithms can be **scaled up or down** according to the knowledge level of the candidate. This means that a variety of candidates can be tested using roughly the same problems.
3. Data Structures and Algorithms are used to test the **analytical skills** of the candidates as they are a useful tool to pick out the underlying algorithms in real-world problems and solve them efficiently.

4. Data Structures and Algorithms are the **fundamentals** of Software Development. They remain the same no matter what new technology is used and that puts the focus on the problem rather than the technology in the interview process.

Learning Data Structures and Algorithms

Now as we have established that Data Structures and Algorithms are important for interviews in **Product Based Companies**, let's focus on learning them.

Bad programmers worry about the code. Good programmers worry about data structures and their relationships.

While learning Data Structures and Algorithms, it is best to start small with simple topics and then move on to more and more advanced topics. Some of the basic data structures are **Arrays, Linked Lists, Stacks, Queues**, etc. while some of the basic algorithms are **Sorting, Searching**, etc.

Some of the major problems that can appear while learning Data Structures and Algorithms are:

- **Lack of guidance:** There is no clear guidance while learning Data Structures and Algorithms. There are numerous topics within these umbrella terms with no specific guidelines about which topics would be more useful for different Product Based Companies. This situation can be quite confusing, especially for a beginner.
- **No idea from where to start learning:** Even if the necessary topics in Data Structures and Algorithms are known, the sheer amount of them leads to a lot of confusion. Most beginners have no idea from where to start learning or even what chronological order to follow while learning.

To solve the above problems, we at GeeksforGeeks have designed a number of online courses to learn Data Structures and Algorithms at affordable prices. One of the latest courses created by us is the [Complete Interview Preparation](#) course. This course covers **Data Structures and Algorithms** along with other subjects in order to completely prepare you for placements in your dream company.

To learn more about it, read on . . .

Complete Interview Preparation Course

The [Complete Interview Preparation](#) Course is specifically designed for the **students and working professionals** to help them out in landing their dream job by providing them all the required stuff like premium lectures, theory notes, practice tests, assessment tests, etc. in a single place. In this course, along with **Data Structures & Algorithms**, you'll get prepared for other required subjects also like Computer Science Core Subjects, Programming Language, Reasoning & Aptitude, etc. Also, we know that the placement preparation requires some extensive research process and smart learning as not every subject holds the same weightage in the interview hence, this Complete Interview Preparation Course is extensively curated keeping this factor in mind.

Some of the prominent features of the Complete Interview Preparation course are listed below:

- Around 200+ algorithmic coding problems will be provided
- Track-based learning & Weekly assessment tests
- Premium **Video Lectures recorded by Sandeep Jain (CEO & Founder, GeeksforGeeks)** and other industry experts.
- Subject-wise Theoretical content & Objective Questions compiled by subject experts
- Lifetime access to the Course will be provided
- Course Completion Certificate & Internship Opportunities at GeeksforGeeks
- College Students will get the **year-wise weekly plan** for the course
- Free Access to Get Hired Premium at GeeksforGeeks Job Portal
- Dedicated TAs for the Doubt Assistance (Optional)

This course is originally priced at INR 9,999, but it is available at an **offer price of INR 6,999**. Also, if you want to add on the **doubt assistance** facility in this course, you'll be required to pay an additional amount of **INR 2,999** only. The Doubt Assistance facility will be valid for the complete 1 year from the registration.

DSA Self Paced Course

In case you wish to focus exclusively on Data Structures and Algorithms, you can opt for our latest online course to learn Data Structures and Algorithms named [DSA Self Paced Course](#), which covers everything about Data Structures and Algorithms from the Basic level to the Advanced level. It offers a wealth of programming challenges that you may face at your next job interview. The course focuses mainly on Data Structure & Algorithms as it is the key to selection in top product-based companies.

Some of the Key Features of the Course are:

- Well-organized tutorials on Data-Structures and Algorithms prepared by the experts
- Premium video lectures by **Mr. Sandeep Jain**, Founder, and C.E.O of GeeksforGeeks.
- Weekly Assessment Tests with Video Solutions.
- Course Completion Certificate & Internship Opportunities at GeeksforGeeks
- Lifetime access to the Course

The price of the self-paced online DSA course is **INR 2,799**. Also, if you want to add on the doubt assistance facility in this course, you'll be required to pay an additional amount of **INR 1,499** only. The Doubt Assistance facility will be valid for the complete 6 months from the registration.

Geeks Classes \xe2\x80\x93 Live Session

Do you want to get live online classes on Data Structures & Algorithm to learn and master it? If yes, then we have [Geeks Classes \xe2\x80\x93 Live Session](#) course for you. It will be an interview centric extensive online (live) program to build and enhance your DSA skills. The course is designed in such a manner that it will help you to improve your problem-solving and coding skills by enhancing your understanding of Data Structures & Algorithms. The primary goal of this course is to help you in the preparation for the Coding interviews of companies like Amazon, Microsoft, Uber, etc. As it will be an online live class \xe2\x80\x93 you can attend this class from any geographical location and can ask your doubts or queries as well to the instructor similar to an offline classroom program.

Some of the prominent features of this course are provided below:

- Doubt Solving Assistance (TA's)
- Limited Batch strength
- Course Completion Certificate
- 6 months access to recorded Live lectures of this course
- Other than that, you will also get complimentary access to the course content of the DSA Course.

This [Geeks Classes \xe2\x80\x93 Live Session Course](#) is being provided to you at a discounted price of **INR 10,999/-**.

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