Data Structures and Algorithms

Self Paced Course

Learn Data Structures & Algorithms at your own pace to prepare for top product-based companies like Amazon, Uber, Adobe, etc

 Students, Working Professionals

Course Overview

This course is a complete package that helps you learn Data Structures and Algorithms from basic to an advanced level. The course curriculum has been divided into ١٠ weeks where you can practice questions & attempt the assessment tests according to your own pace. The course offers you a wealth of programming challenges that will help you to prepare for interviews with top-notch companies like Microsoft, Amazon, Adobe etc.

You will learn algorithmic techniques for solving various problems with full flexibility of time. With this course, you can study at your own pace and need not hurry or puzzle yourself.

This course does not require any prior knowledge of Data Structure and Algorithms, but a basic knowledge of any programming language (C++ / Java) will be helpful.

What You Will Learn

Learn Data Structures and Algorithms from basic to advanced level

Learn Topic-wise implementation of different Data Structures & Algorithms

Improve your problem-solving skills to become a stronger developer

Develop your analytical skills on Data Structures and use them efficiently

Solve problems asked in product-based companies' interviews

Solve problems in contests similar to coding round for SDE role

Course Features

٢٠٠+ algorithmic coding problems

Lifetime access to the Course

Track-based learning

Weekly assessment tests

Premium Lecture videos by Mr. Sandeep Jain (CEO & Founder, GeeksforGeeks)

Course Completion Certificate trusted by top universities and companies

Internship Opportunities at GeeksforGeeks

Access to the GeeksforGeeks Jobs portal

Course Content

Introduction

Analysis of Algorithm

Background analysis through a Program and its functions.

Order of Growth

A mathematical explanation of the growth analysis through limits and functions.

A direct way of calculating the order of growth

Asymptotic Notations

Best, Average and Worst case explanation through a program.

Big O Notation

Graphical and mathematical explanation.

Calculation

Applications at Linear Search

Omega Notation

Graphical and mathematical explanation.

Calculation.

Theta Notation

Graphical and mathematical explanation.

Calculation.

Analysis of common loops

Single, multiple and nested loops

Analysis of Recursion

Various calculations through Recursion Tree method

Space Complexity

Basic Programs

Auxiliary Space

Space Analysis of Recursion

Space Analysis of Fibonacci number

Practice Problems

This track contains many practice problems for the users which are considered important and must-do as far as Data Structure and Algorithm is concerned.

Mathematics

Bit Magic

Recursion

Arrays

Searching