Google SDE Sheet: Interview Questions and Answers

Last Updated : 12 Sep, 2024

Google is an American multinational technology company specializing in search engine technology, online advertising, cloud computing, computer software, quantum computing, e-commerce, and artificial intelligence. It is a dream of many people to work for Google. This sheet will assist you to land a job at Google, we have compiled all the interview questions and answers.

Google SDE Sheet

For top companies like Google, one must have solid Data Structure concepts, good communication skills, and an analytical mindset. Steps to follow to get a chance at Google are:

assessment. Here’s an overview of the online assessment:
Number of questions: 2 questions
Time allowed: 90 minutes
Topics: typical algorithm/data structure questions

- **Technical Phone Screen: (**30-60 minutes) Google’s interview process begins with a technical phone interview for experienced software engineers. During this stage, tech leads conduct interviews via Google Meet or Hangouts.
- **Onsite:** Onsite is the last stop. On average, 4 to 6 rounds should be finished in a day. Each round should take around 45 minutes and include questions on both system design and code. Interviewees note that more coding is done than system design, and expectations change depending on your skill level.
- **Behavioral Skills(Googleyness):** As part of its hiring process, Google wants to determine whether a potential employee has “Googleyness”, a value that the company uses to describe those who are culturally fit.

Google SDE Roadmap

- Computer Science Concepts
- Data Structure & Algorithms
  - Arrays
  - Strings
  - Linked List
  - Stack & Queue
  - Searching
  - Sorting
  - Heap & Hash
  - Tree
  - Graph
  - Dynamic Programing
- Project Discussion
- System Design
- Behavioral Skills

Why this sheet?

Google coding interviews can be a tough nut to crack. The questions in questions asked in Google Interviews so far. Questions in this sheet are grouped topic-wise and cover all major DSA topics that have weightage in Google interviews.

Computer Science Concepts: Google focuses on the following Computer Science Subjects in their interviews:

- Operating System
- Computer Networks
- OOPS

Data Structure & Algorithms

Array: An array is a collection of items stored at contiguous memory locations. The idea is to store multiple items of the same type together.

Articles	Practice
Wave Array	Solve
Subarray with given sum	Solve
Majority Element	Solve
Peak element	Solve
Three Sum Closest	Solve
Number of subarrays having sum exactly equal to k	Solve
Kadane’s Algorithm	Solve
Find the element that appears once	Solve
Find the minimum element in a sorted and rotated array	Solve
Search a Word in a 2D Grid of characters	Solve
Max sum of M non-overlapping subarrays of size K	Solve
Find Surpasser Count of each element in array	Solve
Smallest Absolute Difference	Solve
Sum of bit differences among all pairs	Solve
Count More than n/k Occurrences	Solve
Capacity To Ship Packages Within D Days	Solve

special character '\0'.

Articles	Practice
Valid Expression	Solve
Multiply Large Numbers represented as Strings	Solve
Minimum indexed character	Solve
Find Maximum number possible by doing at-most K swaps	Solve
How to replace a substring of a string	Solve
Uncommon characters	Solve
License Key Formatting	Solve
Minimum insertions to form a palindrome	Solve
Longest Repeating Subsequence	Solve
Alien Dictionary	Solve
Anagram Palindrome	Solve
Longest Palindromic Substring	Solve
Rabin-Karp Algorithm for Pattern Searching	Solve
Longest prefix which is also suffix	Solve

Linked List: A linked list is a linear data structure, in which the elements are not stored at contiguous memory locations.

Articles	Practice
Nth node from end of linked list	Solve
Reverse a linked list	Solve
Detect loop in a linked list	Solve
Delete a Node from linked list without head pointer	Solve
Find length of Loop	Solve
Insert in a Sorted List	Solve
Pairwise Swap Nodes of a given Linked List	Solve
Sort a linked list of 0s, 1s and 2s	Solve
Reverse a sublist of a linked list	Solve

Stack and Queue:

- **Stack**: A stack is a linear data structure in which elements can be inserted and deleted only from one side of the list, called the top. A stack follows the LIFO (Last In First Out) principle.
- **Queue**: A queue is a linear data structure in which elements can be inserted only from one side of the list called rear, and the elements can be deleted only from the other side called the front. The queue data structure follows the FIFO (First In First Out) principle.

Articles	Practice
The Celebrity Problem	Solve
Maximum Rectangular Area in a Histogram	Solve
Max rectangle	Solve
Length of the longest valid substring	Solve
Find the first circular tour that visits all petrol pumps	Solve
LRU Cache Implementation	Solve
Minimum time required to rot all oranges	Solve
Sliding Window Maximum (Maximum of all subarrays of size k)	Solve

Searching: Searching Algorithms are designed to check for an element or retrieve an element from any data structure where it is stored.

Articles	Practice
Subarray with given sum	Solve
Kth smallest element	Solve
Find a peak element	Solve
Search in a Rotated Array	Solve
The Painter's Partition Problem-II	Solve
Minimum number of times A has to be repeated such that B is a substring of it	Solve
Koko Eating Bananas	Solve
Next greater number set digits	Solve
Median of 2 Sorted Arrays of Different Sizes	Solve
Maximum no of 1's row	Solve
Elements in the Range	Solve

Sorting: A Sorting Algorithm is used to rearrange a given array or list of elements according to a comparison operator on the elements. The comparison operator is used to decide the new order of elements in the respective data structure.

Articles	Practice
Floor in a Sorted Array	Solve
Find all triplets with zero sum	Solve
Count Inversions	Solve
Sort an array of 0s, 1s and 2s	Solve
Minimum Platforms	Solve
Count the number of possible triangles	Solve
At least two greater elements	Solve
Maximum Intervals Overlap	Solve
Next Greater Even Number	Solve
Count Smaller elements	Solve
Chocolate Distribution Problem	Solve

Hash and Heap:

- **Hash**: Hashing is a technique or process of mapping keys, and values into the hash table by using a hash function. It is done for faster access to elements. The efficiency of mapping depends on the efficiency of the hash function used
- **Heap**: A Heap is a special Tree-based data structure in which the tree is a complete binary tree. Heap and hash is an efficient implementation of a priority queue. The linear hash function

Articles	Practice
Count pairs with given sum	Solve
Longest Consecutive Subsequence	Solve
Triplet Sum in Array	Solve
Largest subarray of 0’s and 1’s	Solve
Find median in a stream	Solve
Longest K unique characters substring	Solve
Winner of an election	Solve
Binary Heap Operations	Solve
Kth element in Matrix	Solve
Game with String	Solve
Rearrange characters	Solve

Trees: A tree is non-linear and a hierarchical data structure consisting of a collection of nodes such that each node of the tree stores a value, a list of references to nodes (the “children”). :

Articles	Practice
Print leaf nodes from preorder traversal of BST	Solve
Height of Binary Tree	Solve
ZigZag Tree Traversal	Solve
Left View of Binary Tree	Solve
Boundary Traversal of binary tree	Solve
Lowest Common Ancestor in a Binary Tree	Solve
Bottom View of Binary Tree	Solve
Mirror Tree	Solve
Sorted Link List to BST	Solve
k-th smallest element in BST	Solve
Merge two BST ‘s	Solve
Maximum path sum from any node	Solve
Maximum sum of Non-adjacent nodes	Solve
Root to leaf paths sum	Solve
Maximum Path Sum between 2 Leaf Nodes	Solve
Count BST nodes that lie in a given range	Solve

Graph: A Graph is a non-linear data structure consisting of nodes and edges. The nodes are sometimes also referred to as vertices and the edges are lines or arcs that connect any two nodes in the graph.

Articles	Practice
Dijkstra’s shortest path algorithm	Solve
Find the number of islands	Solve
Unit Area of largest region of 1’s	Solve
Word Boggle	Solve
Prerequisite Tasks	Solve
Flood fill Algorithm	Solve
X Total Shapes	Solve
Number of Provinces	Solve
Word Ladder I	Solve
Knight Walk	Solve
Course Schedule	Solve
Assignment Problem	Solve
Clone Graph	Solve
Find the String	Solve

that has repeated calls for same inputs, we can optimize it using Dynamic Programming.

Articles	Practice
Trapping Rain Water	Solve
Maximum Product Subarray	Solve
Stock buy and sell	Solve
Interleaved Strings	Solve
Stickler Thief	Solve
Smallest window in a string containing all the characters of another string	Solve
Max rectangle	Solve
Activity Selection	Solve
Jump Game	Solve
Knapsack with Duplicate Items	Solve
Wildcard Pattern Matching	Solve
Total Decoding Messages	Solve
Matrix Chain Multiplication	Solve
Count occurences of a given word in a 2-d array	Solve
Brackets in Matrix Chain Multiplication	Solve
Burst Balloon to maximize coins	Solve

Thoroughly revise all the work you have done till now in your projects. The grilling about projects can sometimes be very deep. Also, choose your words before you speak. Mention only those topics where you think you are fine to be grilled upon. If you haven't made a project then take an idea from GFG Projects and start working on it.

System Design

System Design is the process of designing the architecture, components, and interfaces for a system so that it meets the end-user requirements. System Design for tech interviews is something that can't be ignored!

Almost every IT giant whether it be Facebook, Amazon, Google, or any other asks various questions based on System Design concepts such as scalability, load-balancing, caching, etc. in the interview.

This specifically designed **System Design tutorial** & **System Design Course** will help you to learn and master System Design concepts in the most efficient way from basics to advanced level.

Behavioral Skills

Many people are very afraid of behavioural interview questions in technical interviews as they seem to be just something most programmers are not good at. Do you know that less than 10% of candidates passed their on-site interviews as reported in Silicon Valley? Don't forget that those who failed have already passed the phone screen.

- Top 5 Common Mistakes in Technical On-site Interviews
- 6 Tips to Prepare Behavioural Interview Questions
- 10 mistakes people tend to do in an Interview

Join GfG 160, a 160-day journey of coding challenges aimed at sharpening your skills. Each day, solve a handpicked problem, dive into detailed solutions through articles and videos, and enhance your

Comment

More info

Next Article

Introduction to Linked List - Data Structure and Algorithm Tutorials

Similar Reads

TCS SDE Sheet: Interview Questions and Answers

What is TCS NQT ? TCS NQT is National Qualifier Test conducted by Tata Consultancy Services, it is a prerequisite for all the tests. The validity of...

8 min read

Apple SDE Sheet: Interview Questions and Answers

Apple is one of the world's favorite tech brands, holding a tight spot as one of the tech Big Four companies. Apple products have found their wa...

11 min read

Wipro SDE Sheet: Interview Questions and Answers

Wipro Coding Sheet is prepared to crack Wipro interviews. Wipro Limited is a leading technology, service, and consulting company that thrives on...

7 min read

Netflix SDE Sheet: Interview Questions and Answers

Netflix, the top video streaming service in the world was founded in 1997 and started out by shipping DVDs to customers by mail. Now it consume...

9 min read

HCL SDE Sheet: Interview Questions and Answers

HCL Technologies Ltd is one of the leading global IT services companies that helps global enterprises re-imagine and transform their businesses...

6 min read

9 min read

Amazon SDE Sheet: Interview Questions and Answers 2024

Amazon SDE sheet is the collection of the most important topics or the most frequently asked question in Amazon Software Development...

11 min read

Cognizant SDE Sheet: Interview Questions and Answers

Cognizant is an American multinational information technology services and consulting company, headquartered in new jersey, US. It has broadly...

7 min read

Top 50 Android Interview Questions and Answers - SDE I to SDE III

A Linux-based open-source OS, Android was created by Andy Rubin and became one of the most popular smartphone operating systems. With 7...

15+ min read

SDE SHEET - A Complete Guide for SDE Preparation

Here is a curated list of the most popular questions among important topics, such as Programming Languages, Data Structure and Algorithms...

8 min read

Article Tags : DSA Interview Questions Software Development Company SDE Sheet

+4 More

Practice Tags : Google

Sector 137, Noida, Gautam Buddh
Nagar, Uttar Pradesh, 201305

GET IT ON Google Play

Download on the App Store

Company

About Us

Legal

Careers

In Media

Contact Us

Advertise with us

GFG Corporate Solution

Placement Training Program

Explore

Job-A-Thon Hiring Challenge

Hack-A-Thon

GfG Weekly Contest

Offline Classes (Delhi/NCR)

DSA in JAVA/C++

Master System Design

Master CP

GeeksforGeeks Videos

Geeks Community

Languages

Python

Java

C++

PHP

GoLang

SQL

R Language

Android Tutorial

DSA

Data Structures

Algorithms

DSA for Beginners

Basic DSA Problems

DSA Roadmap

DSA Interview Questions

Competitive Programming

Data Science & ML

Data Science With Python

Data Science For Beginner

Machine Learning

ML Maths

Data Visualisation

Pandas

NumPy

NLP

Deep Learning

Web Technologies

HTML

CSS

JavaScript

TypeScript

ReactJS

NextJS

NodeJs

Bootstrap

Tailwind CSS

Python Tutorial

Python Programming Examples
Django Tutorial
Python Projects
Python Tkinter
Web Scraping
OpenCV Tutorial
Python Interview Question

DevOps

Git
AWS
Docker
Kubernetes
Azure
GCP
DevOps Roadmap

School Subjects

Mathematics
Physics
Chemistry
Biology
Social Science
English Grammar

Databases

SQL
MYSQL
PostgreSQL
PL/SQL
MongoDB

Competitive Exams

JEE Advanced
UGC NET
UPSC
SSC CGL
SBI PO
SBI Clerk
IBPS PO

Computer Science

GATE CS Notes
Operating Systems
Computer Network
Database Management System
Software Engineering
Digital Logic Design
Engineering Maths

System Design

High Level Design
Low Level Design
UML Diagrams
Interview Guide
Design Patterns
OOAD
System Design Bootcamp
Interview Questions

Commerce

Accountancy
Business Studies
Economics
Management
HR Management
Finance
Income Tax

Preparation Corner

Company-Wise Recruitment Process
Resume Templates
Aptitude Preparation
Puzzles
Company-Wise Preparation
Companies
Colleges

More Tutorials

Software Development
Software Testing
Product Management
Project Management
Linux
Excel
All Cheat Sheets

Image Editor
Code Formatters
Code Converters
Currency Converter
Random Number Generator
Random Password Generator

Improve an Article
Pick Topics to Write
Share your Experiences
Internships

DSA/Placements

DSA - Self Paced Course
DSA in JavaScript - Self Paced Course
DSA in Python - Self Paced
C Programming Course Online - Learn C with Data Structures
Complete Interview Preparation
Master Competitive Programming
Core CS Subject for Interview Preparation
Mastering System Design: LLD to HLD
Tech Interview 101 - From DSA to System Design [LIVE]
DSA to Development [HYBRID]
Placement Preparation Crash Course [LIVE]

Development/Testing

JavaScript Full Course
React JS Course
React Native Course
Django Web Development Course
Complete Bootstrap Course
Full Stack Development - [LIVE]
JAVA Backend Development - [LIVE]
Complete Software Testing Course [LIVE]
Android Mastery with Kotlin [LIVE]

Machine Learning/Data Science

Complete Machine Learning & Data Science Program - [LIVE]
Data Analytics Training using Excel, SQL, Python & PowerBI - [LIVE]
Data Science Training Program - [LIVE]
Mastering Generative AI and ChatGPT
Data Science Course with IBM Certification

Programming Languages

C Programming with Data Structures
C++ Programming Course
Java Programming Course
Python Full Course

Clouds/Devops

DevOps Engineering
AWS Solutions Architect Certification
Salesforce Certified Administrator Course

GATE

GATE CS & IT Test Series - 2025
GATE DA Test Series 2025
GATE CS & IT Course - 2025
GATE DA Course 2025