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Get Well Prepared for

Google Interview



Overview

Google tech interviews are notoriously difficult and quite challenging. To get a phone screen, you will need to submit your resume to their online application system or via an internal referral from a Googler. Assuming you passed their resume screen, a recruiter will reach out to you. Usually there will be two phone



Interview Process

You may receive an online assessment link as your first step of interview process. The assessment will expire within 7 days and contains two coding questions to be completed within an hour. Below are some Online Assessment questions for you to practice. Near the end of this chapter we provide more



Arrays and Strings

String manipulation problems are in the same category as arrays, because internally, a string is represented as an array of characters. Array problems usually do not require knowledge of advanced data structures, so just basic data structures such as Hash Tables and basic techniques like Two Pointers should



Linked Lists

According to our user survey data, Linked List problems are not asked frequently at Google. Perhaps, most linked list problems are not that complex and it is harder to ask follow up and complexity analysis questions. Nonetheless, we strongly recommend you to still practice classic Linked List interview questions



Trees and Graphs

Tree is just a special case of graph. To understand the difference between trees and graphs, you can work on Graph Valid Tree. Graphs are generally breath-first search or depth-first search. The same applies to Trees, but trees never contain cycles. Graphs are generally more complex than trees. Similarly, trees are



Recursion

Recursion usually involves some kind of backtracking to enumerate all possibilities. Note that Recursion is a more general purpose algorithm. Depth-First search is a specific form of backtracking related to searching tree data structures. Therefore we categorize those problems in "Trees and Graphs", even



Sorting and Searching

Interval related problems are quite often asked at Google interviews. Similar to "Arrays and Strings", interval related problems can be asked in the context of data stream.



Dynamic Programming

It can be tricky to identify the subproblems and connect them, which is essential in solving Dynamic Programming problems. Dynamic programming is not that scary as you might think, and you can improve your dynamic programming skills by practicing a lot of these problems. According to our user survey,



Design

Google loves to ask lots of question variations based on the Iterator pattern, so make sure you are familiar with the concept of iterators and how iterators work in principle. A good way to learn is to read the open source code and try to code it yourself. For example, here is Google's guava implementation of



Others

Here are other type of problems you may encounter in a Google interview, such as Bit Manipulation.



Discuss

21 topics - share ideas and ask questions about this card

[\(/discuss/explore/google\)](#)

Introduction

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Assuming you passed their resume screen, a recruiter will reach out to you. Usually there will be two phone screens, and if you do well, you'll be invited to onsite interviews.

Since Google operates at a large scale, be prepared to answer lots of follow up questions on how to scale the algorithm you wrote for multiple machines. Some examples are: Number of Islands (<https://leetcode.com/problems/number-of-islands>) and Intersection of Two Arrays II (<https://leetcode.com/problems/intersection-of-two-arrays-ii/description/>).

Interview Process

☐

Unique Email Addresses

☐

Odd Even Jump

☐

License Key Formatting

☐

Fruit Into Baskets

☐

A Google Phone Interview

☐

A Google Onsite Interview

☐

A Google Hiring Committee

☐

A Google Offer Review

Arrays and Strings

☒

Longest Substring Without Repe...

☐

Container With Most Water

☐

3Sum

☐

Next Permutation

☐

Multiply Strings

☐

Rotate Image

☐

Jump Game

☐

Plus One

☐

















Minimum Window Substring


☐











Read N Characters Given Read4 I...






☐











Longest Substring with At Most ...

<input type="checkbox"/>	 Missing Ranges	
<input type="checkbox"/>	 Next Closest Time	
<input type="checkbox"/>	 Expressive Words	
<input type="checkbox"/>	 Find And Replace in String	
<input type="checkbox"/>	 Maximize Distance to Closest Pe...	
<input type="checkbox"/>	 Valid Parentheses	
<input type="checkbox"/>	 Merge k Sorted Lists	
<input type="checkbox"/>	 Trapping Rain Water	
<input type="checkbox"/>	 Kth Largest Element in an Array	
<input type="checkbox"/>	 Meeting Rooms II	
<input type="checkbox"/>	 Backspace String Compare	
<input type="checkbox"/>	 Minimum Cost to Hire K Workers	
<input type="checkbox"/>	 K Closest Points to Origin	








Linked Lists		
<input type="checkbox"/>	 Add Two Numbers	
<input type="checkbox"/>	 Remove Nth Node From End of ...	
<input type="checkbox"/>	 Merge Two Sorted Lists	
<input type="checkbox"/>	 Copy List with Random Pointer	


Trees and Graphs		
<input type="checkbox"/>	 Binary Tree Maximum Path Sum	
<input type="checkbox"/>	 Word Ladder	
<input type="checkbox"/>	 Number of Islands	
<input type="checkbox"/>	 Course Schedule II	
<input type="checkbox"/>	 Count Complete Tree Nodes	
<input type="checkbox"/>	 Longest Increasing Path in a Mat...	
<input type="checkbox"/>	 Decode String	
<input type="checkbox"/>	 Evaluate Division	
<input type="checkbox"/>	 Diameter of Binary Tree	




<input type="checkbox"/>	 Cracking the Safe	
<input type="checkbox"/>	 Robot Room Cleaner	
<input type="checkbox"/>	 Most Stones Removed with Sam...	
<input type="checkbox"/>	 Flip Equivalent Binary Trees	















Recursion		
<input type="checkbox"/>	 Word Squares	
<input type="checkbox"/>	 Strobogrammatic Number II	
<input type="checkbox"/>	 Word Search II	
<input type="checkbox"/>	 Android Unlock Patterns	
<input type="checkbox"/>	 Letter Combinations of a Phone ...	
<input type="checkbox"/>	 Generate Parentheses	

Sorting and Searching		
<input type="checkbox"/>	 Median of Two Sorted Arrays	
<input type="checkbox"/>	 Find First and Last Position of Ele...	
<input type="checkbox"/>	 Merge Intervals	
<input type="checkbox"/>	 Insert Interval	
<input type="checkbox"/>	 Valid Anagram	
<input type="checkbox"/>	 Count of Smaller Numbers After ...	
<input type="checkbox"/>	 Peak Index in a Mountain Array	

Dynamic Programming		
<input type="checkbox"/>	 Longest Palindromic Substring	
<input type="checkbox"/>	 Maximum Subarray	
<input type="checkbox"/>	 Best Time to Buy and Sell Stock	
<input type="checkbox"/>	 Maximum Product Subarray	
<input type="checkbox"/>	 Coin Change	
<input type="checkbox"/>	 Split Array Largest Sum	

Design		
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<input type="checkbox"/>	 LRU Cache	
<input type="checkbox"/>	 Min Stack	
<input type="checkbox"/>	 Serialize and Deserialize Binary T...	
<input type="checkbox"/>	 Logger Rate Limiter	
<input type="checkbox"/>	 Insert Delete GetRandom O(1)	
<input type="checkbox"/>	 Design Search Autocomplete Sys...	

Others		
<input type="checkbox"/>	 Reverse Integer	
<input type="checkbox"/>	 Candy	
<input type="checkbox"/>	 Isomorphic Strings	
<input type="checkbox"/>	 Strobogrammatic Number	
<input type="checkbox"/>	 Bulls and Cows	
<input type="checkbox"/>	 Range Sum Query 2D - Mutable	
<input type="checkbox"/>	 My Calendar II	
<input type="checkbox"/>	 Jewels and Stones	
<input type="checkbox"/>	 Swap Adjacent in LR String	
<input type="checkbox"/>	 Guess the Word	
<input type="checkbox"/>	 Minimum Area Rectangle	