



david hon &lt;davidb.hon@gmail.com&gt;

## Preparing for your Google Interviews!

6 messages

**Elizabeth Alexander** <eealexander@google.com>  
To: david hon <davidb.hon@gmail.com>

Fri, Nov 6, 2020 at 2:26 PM

Hi David,

Thanks for speaking with me today. In the next 5-7 days you will receive a confirmation email from our coordinators with scheduling details for your onsite interviews. Please reply confirming your attendance and I'll follow up to schedule time to go over how to prepare for each focus area below.

Please find your confirmed interview slate below:

- Coding & Algorithms in Python
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- Googleyness and Leadership
- **Large scale system design**

### Get ready

I suggest starting [with this page on our Careers site](#). From there I suggest doing some practice problems (found in your role-specific prep doc) in a 45-minute window to get comfortable with the pace of the interviews, or checking out the [Working at Google YouTube channel](#).

I've also attached details on our [Google Champions Program](#), which connects you with a Googler for a phone call to hear about their experience working at Google. If you're interested in having a call before your interviews, let me know.

### • Coding Prep/Game Sites:

- Video: [How to: Work at Google — Example Coding/Engineering Interview](#)
- <https://leetcode.com/> - Select "Algorithms" under "Questions, Community & Contests"
- <https://www.hackerrank.com/>
- <https://www.geeksforgeeks.org/>

### • System Design

- Video: [Prepare for Your Google Interview: Systems Design](#)
- Video: [Building Software Systems at Google](#)
- [Scalable Web Architecture and Distributed Systems](#)

### Topics to Review

- **Big-O notations** also known as "the run time characteristic of an algorithm." You may want to refresh hash tables, heaps, binary trees, linked lists, depth-first search, recursion. Due to the size of the products you'll be building, it's imperative you're comfortable with big-O notation. Brush up [here](#), or more information visit [this site](#).
- **Sorting:** Know how to sort. Don't do bubble-sort. You should know the details of at least one  $n \log(n)$  sorting algorithm, preferably two (say, quick sort and merge sort). Merge sort can be highly useful in situations where quick sort is impractical, so definitely prepare with that in mind.
- **Hashtables:** Arguably the single most important data structure known to mankind. You absolutely should know how they work. Be able to implement one using only arrays in your favorite language, in about the space of one interview.
- **Trees:** Know about trees; basic tree construction, traversal and manipulation algorithms. Familiarize yourself with binary trees, n-ary trees, and trie-trees. Be familiar with at least one type of balanced binary tree, whether it's a red/black tree, a splay tree or an AVL tree, and know how it's implemented. Understand tree traversal.
- **Algorithms:** BFS and DFS, and know the difference between inorder, postorder and preorder.
- **Graphs:** Graphs are really important at Google. There are 3 basic ways to represent a graph in memory (objects and pointers, matrix, and adjacency list); familiarize yourself with each representation and its pros & cons. You should know the basic graph traversal algorithms: breadth-first search and depth-first search. Know their computational complexity, their tradeoffs, and how to implement them in real code.
- **Additional sample topics:** handling obscenely large amounts of data, elegance and efficiency, decompose large problems and solve parts.

### Tips for Mental Preparedness:

- Relax and stay in the moment
  - Previous interviews are history, and future ones are a mystery...
  - If you don't do as well on one interview as you would have liked, that's okay! Don't dwell on it, instead focus on the interview at hand so you can give yourself the best chance for success.
- Focus on the journey
  - Talk through your thought process about the questions you are asked. In all of Google's interviews, our engineers are evaluating not only your technical abilities but also how you approach problems and how you try to solve them.
  - Think about ways to improve the solution you'll present. In many cases, the first answer that springs to mind may not be the most elegant solution and may need some refining. It's definitely worthwhile to talk through your initial thoughts to a question and take time to compose a more efficient solution.
  - Ask clarifying questions if you do not understand the problem or need more information. Many of the questions asked in Google interviews are deliberately underspecified because our engineers are looking to see how you engage the problem. In particular, they are looking to see which areas leap to your mind as the most important piece of the technological puzzle you've been presented.
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- Don't let perfect be the enemy of great
  - Don't stress over trivia like variable names and coding conventions. Your coding and analytical skills will shine through in your design and code.

- We would prefer to have you use a style and programming language that you're comfortable with rather than try to write in a style that you think we want to see. Just do what you're best at; this will give you the best chance of success.
- We don't focus on brain teasers and trivia
  - We care about the way you solve problems, your thought process, and what you can bring to the role.
  - Interviewers don't focus on punctuation, typos, or how many golf balls can fit into a school bus. :)
- Hiring at Google is a collaborative process
  - We're individuals here too! What this means is that different interviewers will cover different areas and have different styles.
  - Interviewers also want to find the boundaries of what you know and what you don't know (yet!).
  - Don't feel like you have to ace everything, or get down on yourself if you can't come up with an optimal solution for every problem. Think of this as a learning process and just do the best you can. You never know, you may end up teaching your interviewers a thing or two as well :)

*It's important to us to create an accessible, inclusive workplace for everyone, so please complete [this form](#) if you need any accommodations for your interviews, like a sign language interpreter, specialized equipment, or a lactation break and room. Our candidate accommodations team will then connect with you to confidentially discuss your options.*

I know that's a lot to take in, but hopefully this helps! Let me know if you have any questions.

Thanks,  
Elizabeth



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for  
everyone**

**Elizabeth Alexander**  
Technical Recruiter  
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### 3 attachments

**general\_virtual\_interviews\_candidate\_resource.pdf**  
154K

**Connect with a Googler.pdf**

73K

 **[Google Interview Prep Guide] SRE SWE.pdf**  
346K

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**david hon** <davidb.hon@gmail.com>

Fri, Nov 6, 2020 at 3:20 PM

To: Elizabeth Alexander &lt;eealexander@google.com&gt;

Cc: davidb hon &lt;evizbiz@gmail.com&gt;, Tara Thompson &lt;tarathompson@google.com&gt;

Hi Elizabeth, Tara,

Wow that is impressive ... reminds me of my PhD qualis (written and oral),  
back in the day.Cheers,  
--david

[Quoted text hidden]

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-- david

[davidb.hon@gmail.com](mailto:davidb.hon@gmail.com) cell: 352-275-7438

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**Elizabeth Alexander** <eealexander@google.com>

Fri, Nov 6, 2020 at 3:35 PM

To: david hon &lt;davidb.hon@gmail.com&gt;

Cc: davidb hon &lt;evizbiz@gmail.com&gt;, Tara Thompson &lt;tarathompson@google.com&gt;

Glad you liked it!

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**david hon** <davidb.hon@gmail.com>

Fri, Nov 6, 2020 at 3:39 PM

To: Elizabeth Alexander &lt;eealexander@google.com&gt;

Cc: davidb hon &lt;evizbiz@gmail.com&gt;, Tara Thompson &lt;tarathompson@google.com&gt;

Hey Elizabeth,

I feel I should re-watch [https://en.wikipedia.org/wiki/The\\_Internship](https://en.wikipedia.org/wiki/The_Internship) to fully prepare ... :)Cheers,  
--david

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**Elizabeth Alexander** <eealexander@google.com>

Fri, Nov 6, 2020 at 3:43 PM

To: david hon &lt;davidb.hon@gmail.com&gt;

It is very accurate as far as campuses are full of free food, slides, coffee and bikes!

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**david hon** <davidb.hon@gmail.com>

Sat, Nov 7, 2020 at 11:08 AM

To: davidb hon <evizbiz@gmail.com>

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