

Bain & Company, Inc.

Screening Test/Interview Questions for Software Engineer (Remote) Position

Instructions: Please precede all your answers with the question you are answering. Use acronyms only after you've explained them. Use correct spelling and grammar. Be sure to write your name and the interviewer's name.

Candidate's Name: Sankalp Thakur

Interviewer's Name: Sam Thakarar

1. If a very talented Software Engineer on your team kept questioning your decisions, what would you do?

Assuming we both are colleagues, my focus will be on understanding the reason. I would listen and appreciate the feedback. If the feedback benefits the whole team, I would be glad to implement that. But if it focuses more on personal growth, I will ensure to align their vision with the team and the company. According to Patrick Lencioni, in "The five dysfunctions of a team", fear of conflict leads to chain of dysfunctions eventually leading to failure.

2. How would you address the individual?

I would address respectfully by their name.

3. What techniques would you choose to motivate disengaged employees?

Listen. People are sometimes introverts and tend not to share their opinions with the team, especially software engineers. Having a regular 1-on-1 with them could be a game changer. If reason is related to personal life, I would respect that as a colleague and try to solve it as a friend. If reason is around interest in projects, I would empower them to be flexible with technology, infrastructure and work hours without compromising expectations of clients. Lastly, if reason is related to company values, I would try to surround them with other technical talent and if that does not suffice I would be glad to provide them opportunities for growth somewhere else.

4. What metrics do you use to monitor your team's performance?

Team's performance can be monitored from two different viewpoints:

Business results - it will consider velocity (delivery timeliness), quality of deliverables (bug count), adhere to service level agreement (SLA), amount of downtime, post product deployment and maintenance issues and security and compliance standards.

People results - it will consider overall well being of the team (employee survey), track of hours committed, and count of complaints of misbehavior.

5. What are the first things you would check in a legacy system that has frequent downtime?

As first thing I would check for versions of the tech stack used and update them making sure integration is still applicable. If this doesn't work out, in priority order, I will develop features outside the legacy systems with better versions and a sustainable and scalable technical stack.

6. Have you ever identified a potential problem and proactively implemented a software solution?

Last summer, I was looking to buy some good quality headphones from the likes of Beats, Bose or Sony. Apparently, they were all out of my budget. To solve this, I wrote a script to run on Amazon.com every night and scrape prices of desired headphones. It would mail me once they came below my price point. I am currently using Beats' headphones which I bought at a 50% discount price.

7. How do you stay up-to-date with changes in technology?

Staying up to date with changes and developments in technology requires one to be connected to the community on various platforms. I listen to podcasts such as AI with Lex Fridman, read newsletters such as The Batch, watch Youtube channels such as Marques Brownlee, make connections on linkedin, follow on Twitter and last but not the least read medium articles.

8. For example, do you ever attend seminars or contribute to open source software projects?

The best thing about living in silicon valley is that you get to attend a lot of seminars and conferences. To name a few, which I have attended are Dreamforce, Rakuten Optimism and Careers in consulting by Logic 20/20.

9. How do you meet tough deadlines?

According to Pareto's principle, 80% of deliverables could come with 20% of effort. It's rest 20% of features that require 80% effort. Breaking up 20% in modules and sorting them according to priority should solve the problem of deadlines. If not I may turn towards a minimal viable product.

10. Tell me about a time you completed great work under pressure.

Today, I got interview questions from Bain & Company to be completed within 90 minutes. It was totally unexpected and I was preoccupied with other meetings. But I had to prioritize tasks in hand and work done was completed under pressure of a tight deadline. How great the work was, is yet to be answered by Sam.

11. Tell me about yourself and your last/current job/class?

My sister works in top 3 consultancy firms. I idolize her and her work. Making that as a goal I did my master's in information systems which is an amalgamation of management and software development, after completing my bachelor's in computer science. Fun fact: As a self-starter, I started one of India's first laser tag equipment manufacturing and event organizing startup. It, SN Laser Strike, was crowdfunded and was closed in August of 2018 with a 700% return on investment in 3.5 years. Additionally, major Indian Institutes of Technologies have been regular customers for organizing the event in their college festivals. My last class was information systems policies and strategies where I got to learn a lot about management consulting. Professor himself is an employee of big four consulting firms. As a project, I presented an unique solution using AI and blockchain to solve inventory management issues in a retail store. It also consisted of a roadmap and strategy to drive digital transformation.

12. How long would you expect to work for us if hired?

As long as I am being challenged, solving new issues, making an impact while exponentially growing my learning curve.

13. What type of software have you worked with?

I have worked with multiple types of softwares such development tools (PyCharm, Eclipse) analytical tools (Excel, Tableau), database management tools (MySQL, MongoDB), project

management tools (MS project), cloud computing softwares (Docker, Git, Kubernetes).

14. How much will you request per hour if you are hired?

While it depends a lot on demographics and other benefits, I think somewhere around 30\$ would be a good start.

15. The ideal candidate should have the following qualities and skills: Analyzing Information, Software Design, Software Documentation, Software Testing, Teamwork, General Programming Skills, Software Development Fundamentals, Software Development Process, Software Requirements, Software Architecture, Coaching.

16. DUTIES will include : Develops software solutions by studying information needs; conferring with users; studying systems flow, data usage, and work processes; investigating problem areas; following the software development lifecycle. Determines operational feasibility by evaluating analysis, problem definition, requirements, solution development, and proposed solutions. Documents and demonstrates solutions by developing documentation, flowcharts, layouts, diagrams, charts, code comments and clear code. Prepares and installs solutions by determining and designing system specifications, standards, and programming.