**AMAZON INTERVIEW PREP**

There are 4 areas within the tech that the interviewers will focus on. You will be white boarding for each one of these. **Please be sure to practice!**

1. **Coding – Problem Solving**
2. **Coding – Data Structures and Algorithms (CS Fundamentals)**
3. **System Design (Scalability and Operational Performance)**
4. **Coding – Logical and Maintainable**

**Please remember the 3 tips I gave you during our call. It’s EXTREMELY important that you remember these:**

1. **BEFORE** you code – Make sure you ask a lot of clarifying questions to the interviewer. Treat them as your client and make sure you get all the requirements prior to you coding. Show the interviewer that you have a process/method/tool kit to understand the requirements.
2. Code in the language you are most comfortable using.
3. Make sure you are thinking out loud as you are solving your coding problems. The interviewer needs to understand how you approach the scenario and problem solve. If you get stuck, they will give you hints to help you!
4. Remember the power of Pseudo code! Don’t try to write the algorithm right off the bat, make sure you understand and have down what you want to code to do, and then write out the algorithm.

Below I have added some example questions of past interviews so that you can see the intensity of the interview. **DO NOT share these questions please.** Feel free to practice with these.

**Coding – Problem Solving**

**Example of Questions:**

1. **Given an integer, write a function that turns it into an English string (123,456 -> "one hundred twenty three thousand, four hundred fifty six")**
2. **Write code to find all Palindromes in a given sample string.**

Example: "pop this tacocat seems nice at noon"

"pop", "s tacocat s", " tacocat ", "tacocat", "acoca", "coc", "noon"

1. **Give an array of ints that represent bar graph, write a method that calculates the largest rectangle area covered by the graph.**

**Coding – Data Structures and Algorithms**

**Example of Questions:**

1. **Deck / Card Game Question**

Creating a card game - create the data structure for our deck of cards  
Create data structures for rest of game elements (standard solitaire)  
Code to Shuffle the deck  
Need to know Red vs Black, how would you implement?  
How handle additional suits?  
How handle more cards

1. **Write a program to convert a decimal number to roman numerals. (**Convert an integer number to its equivalent roman numeral.)
2. **Sort 100 million 10 bit integers.**

**Coding: System Design (scalability and operational performance) – Make sure you have a process/method in place for your system design. Ask LOTS of clarifying question (requirement gathering) before you do anything. You will need to draw the bloques, determine what function each has, how information is transmitted from one to another and in what sequence. Then imagine a variable of scenarios that can happen).**

**Example of Questions:**

1. **Design a micro blogging site like twitter**
2. **Design a system to track and bill vehicles which park at a parking garage. Your service will get the start and end time of the parking and need to calculate the price the customer should pay. The rates can be hourly, daily and special rates for some specific dates. Customer should be charged lowest rate of daily or hourly.**

**Coding: Logical and Maintainable - Is your code doing what it’s supposed to be? Is it clear? It doesn’t have to be overly complicated!**

**Example of Questions:**

1. **There are 10,000 HTML files of various sizes on the directory with a format problem pertaining to phone numbers. Parts of the phone number is separated with period, leading people to think that the floating point numbers or very large numbers in European notation. How would I go about fixing this problem?**
2. **This is a real problem at Amazon. The company has to be make millions of payments a day but payments need to be vetted. This can be done with a rules framework that is configured by users. It would look something like: 'amount' > 1000000 and 'payment\_date < today - 30. What would the class diagram look like and how would this rule execute on a single transaction?**
3. **You are going to write a class. The class is passed an array that looks like this: [3, 8, 1, 4, 0, 7, 2, 5] (0-based array). Then even entries tell you how many times the odd entries are to be repeated as you decode this array. So e.g. in this case, the array inflates to "8,8,8,4,5,5". Write your class to support an iterator, so that each time it's called, it returns the next element in the sequence. So for example, in this case, the first 3 times it's called it returns "8", the 4th time it's called it returns "4", and so forth.**

**Make sure to also brush up on your CS fundamentals**

**Binary Search Tree and Algorithms and Hash Maps/Dictionary’s**

**Leadership Principles**

During your interview, you will also have “behavioral” questions based on your past experiences. These questions are based on Amazon’s Leadership Principles.

To find them, please click here: [www.amazon.jobs/principles](http://www.amazon.jobs/principles)

**Please read each one and think about examples in your past work experience in which you can demonstrate that you are aligned with our principle. Remember that we use the STAR method:**

**S – Situation**

**T – Tasks**

**A – Actions**

**R – Results.**

You have to tell the story! Don’t assume the interviewer knows what you are talking about. Also, make sure you ALWAYS talk about the results at the end.

**Read all the Principles, but below are the ones to focus on. I have added past questions for you so that you have an idea of what can be asked. These are most likely, not the questions you will be asked.**

**Insist on High Standards – L**eaders have relentlessly high standards - many people may think these standards are unreasonably high. Leaders are continually raising the bar and driving their teams to deliver high quality products, services and processes. Leaders ensure that defects do not get sent down the line and that problems are fixed so they stay fixed.

1. Describe the most significant, continuous improvement project that you have led. What was the catalyst to this change and how did you go about it?
2. Give me an example of a goal you’ve had where you wish you had done better. What was the goal and how could you have improved on it?
3. Tell me about a time when you have worked to improve the quality of a product / service / solution that was already getting good customer feedback? Why did you think it needed continued improvement?

**Bias for Action-** Speed matters in business. Many decisions and actions are reversible and do not need extensive study. We value calculated risk taking.

1. Describe a situation where you made an important business decision without consulting your manager. What was the situation and how did it turn out?
2. Tell me about a time when you had to analyze facts quickly, define key issues, and respond immediately to a situation. What was the outcome?
3. Tell me about a time when you have worked against tight deadlines and didn't have the time to consider all options before making a decision. How much time did you have? What approach did you take?

**Ownership-** Leaders are owners. They think long term and don’t sacrifice long-term value for short-term results. They act on behalf of the entire company, beyond just their own team. They never say “that’s not my job".

1. Tell me about a time when you took on something significant outside your area of responsibility. Why was it important? What was the outcome?
2. Give me an example of a time when you didn't think you were going to meet the commitments you promised. How did you identify the risk and communicate it to stakeholders? What was the outcome?
3. Give an example of when you saw a peer struggling and decided to step in and help. What was the situation and what actions did you take? What was the outcome?

**Delivers Results-** Leaders focus on the key inputs for their business and deliver them with the right quality and in a timely fashion. Despite setbacks, they rise to the occasion and never settle.

1. Tell me about a time where you not only met a goal but considerably exceeded expectations. How were you able to do it? What challenges did you have to overcome?
2. Give me an example of a time when you were able to deliver an important project under a tight deadline. What sacrifices did you have to make to meet the deadline? How did they impact the final deliverables?
3. Tell me about a time you had significant, unanticipated obstacles to overcome in achieving a key goal. Were you eventually successful?

**Are Right, A Lot-** Leaders are right a lot. They have strong judgment and good instincts. They seek diverse perspectives and work to disconfirm their beliefs.

1. Give me an example of when you have to make an important decision in the absence of good data because there just wasn’t any. What was the situation and how did you arrive at your decision? Did the decision turn out to be the correct one? Why or why not?
2. Tell me about a time when your view on something important was significantly changed by someone that came from a different perspective? What was your reaction? What made you change your mind?
3. Tell me about a decision for which data and analysis weren’t sufficient to provide the right course and you had to rely on your judgment and instincts. Give me two to three examples. They don’t have to be big strategic decisions – could be big or small.
4. Tell me about a time you made a difficult decision and how you knew it was the right solution (probe on how they evaluated the options, if they received input, what data they reviewed, etc.)

**Customer Obsession -** Leaders start with the customer and work backwards. They work vigorously to earn and keep customer trust. Although leaders pay attention to competitors, they obsess over customers.

1. Give me an example of a time you used customer feedback to drive improvement or innovation. What was the situation and what action did you take?
2. Give me an example of your most difficult customer interaction and how you worked through it. What was the outcome?
3. Tell me about a time a customer wanted one thing, but you felt they needed something else. How did you approach the situation, what were your actions and what was the end result?
4. Tell me about a time when you went above and beyond the call of duty for a customer. Why did you take the action you did? What was the outcome?

**Have Backbone, Disagree and Commit -** Leaders are obligated to respectfully challenge decisions when they disagree, even when doing so is uncomfortable or exhausting. Leaders have conviction and are tenacious. They do not compromise for the sake of social cohesion. Once a decision is determined, they commit wholly.

1. Tell me about a time that you strongly disagreed with your manager on something you deemed to be very important to the business. What was it about and how did you handle it?
2. Give me an example of when you took an unpopular stance in a meeting with peers and your leader and you were the outlier. What was it, why did you feel strongly about it, and what did you do?
3. When do you decide to go along with the group decision even if you disagree? Give me an example of a time you chose to acquiesce to the group even when you disagreed. Would you make the same decision now?
4. Give an example when you submitted a good idea to your manager and he/she did not take action on it? How did you handle it? What was the end outcome?

**Invent and Simplify –** Leaders expect and require innovation and invention from their teams and always find ways to simplify. They are externally aware, look for new ideas from everywhere, and are not limited by “not invented here”. As we do new things, we accept that we may be misunderstood for long periods of time.

1. Tell me about the most innovative thing you’ve done and why you thought it was innovative (can also probe with: That sounds more evolutionary than revolutionary – tell me about something you’ve done you feel was truly revolutionary? Ask for one or two additional examples to see if it’s a one off or pattern.)
2. People often say the simplest solution is the best. Tell me about a particular complex problem you solved with a simple solution.
3. Tell me about a time you were able to make something significantly simpler for customers. What drove you to implement this change?

**Dive Deep -** Leaders operate at all levels, stay connected to the details, audit frequently, and are skeptical when metrics and anecdote differ. No task is beneath them.

1. Tell me about a time you were trying to understand a problem on your team and you had to go down several layers to figure it out. Who did you talk with and what information proved most valuable? How did you use that information to help solve the problem?
2. Tell me about a problem you had to solve that required in-depth thought and analysis? How did you know you were focusing on the right things?
3. Tell me about a time when you linked two or more problems together and identified an underlying issue? Were you able to find a solution?

**\*\*Deals with Ambiguity –** This is NOT a principle, but it’s a big part of our culture. We don’t always have all the answers but you need to show us that you can work well in an environment that is always changing.