

Interview Questions

December 2018

We need to have the computers and check their portfolio's (if mentioned in resumé)

Behavioral

- What do you know about the Moonbuggy?
 - Should at least mention competition (shows interest)
 - **Follow up:** What is the purpose of the Telemetry department?
 - These questions can easily be answered if they looked up the team online
- Describe the project you've worked on that you're most proud of. What did you do that worked out particularly well? [source](#)
 - This tells me a lot about what they know, what they value, what actual positions they've held on a team, and whether they actually think about what they're doing.
 - **Follow up:** Describe the project you've worked on that you're least proud of. What would you do differently?
 - I need people who can learn, and learning means making mistakes, recognizing that, and doing a better job next time.
- How do you go about learning a new technology or framework
 - **Follow up:** Where these technologies learned because of coursework or self learning?
 - We are looking for learning dedication
- How would you manage a project where you don't know the technologies used?
 - Testing initiative, willingness to learn and work ethic

Technical

- Describe what an API is and how it is useful.
 - Answer: API's (application programming interface) are useful for building software without having to implement every single piece
 - answers related to code reusability and ease of use are also acceptable
- What is your process for finding a bug in an application? How much time do you typically spend on debugging? [source](#)
 - The first question tests the way the candidate thinks when working with difficult bugs. Every candidate has their own process, but they must use a debugging tool, understand how to sift through each line of code using that tool, and then understand what must be done to fix the bug without affecting other code within a project.
 - The second question helps gauge how often a developer needs to debug his or her own code.
- How can we create a database?
 - Answer: First we create a server, locally or externally, with a username and password (password is optional). Then we create the database on the server. Finally on the newly created DB we create as many tables as needed. **Note:** It's important to develop a simple sketch to know how the tables are going to work and determine how many tables are needed.
 - **Follow up:** How can we link two different tables?
 - Answer: with a primary and/or foreign key.
- How do you find duplicate numbers in an array if it contains multiple duplicates?
 - **Solution:**

```
(Pseudo code)
set = {}
ForEach element e in array{
    set.add(e)
}
return set.toArray()
```

This solution works since sets don't include duplicates but arrays do.

Note: Multiple answers are possible. However this is a simple question so interviewee should be able to come up with an

answer if he/she has taken any programming course

Evaluation for this question:

- Did the interviewee make any questions about the input?
 - important that they do to understand the problem fully
- Answer should be $O(n)$ at max
 - anything more and the interviewee is clearly brute-forcing the solution
- Answer will be verbal but shouldn't take more than 5 minutes to answer.