Deployment Testing

1. What is System Testing?
2. What is Acceptance Testing?
3. What is Regression Testing?
4. How do Unit Testing, Integration Testing, System Testing, Acceptance Testing, and Regression Testing relate to Continuous Integration (CI) and Continuous Deployment (CD)?
5. What is Alpha Testing?
6. What is Beta Testing?
7. What is Canary Testing?
8. When should an organization stop testing internally and move to Alpha Testing and let users find the bugs?
9. When should an organization move from Alpha to Beta to Canary Testing to Full Production?

1. System testing is when the whole application is tested as the complete system. The goal is to make sure all features work together and as intended.

2. Acceptance Testing checks whether the system is good enough to be shipped. It confirms the software meets the business requirements.

3. Regression testing makes sure that new features don't break the existing features after being added.

4. Unit tests run on every commit on CI to catch the small bugs, while integration tests run to verify different modules work together. System tests run later in the pipeline to test the full application at every version. Acceptance tests run before deployment. Regression tests run throughout to make sure new changes don't break old ones.

5. Alpha Testing is when the product is tested by the development team or company employees.

6. Beta Testing is when the product is given to a small group of real consumers outside of the company.

7. Canary Testing is when a new version of the software is released to a very small percentage of users in production.

8. A team should move to alpha testing when all of the major features are built and most bugs are fixed and the system is usable, sort of like proofreading a draft of a paper with a friend, eventually you can't find bugs because you aren't thinking like a user.

9. A team should move to Beta when the internal users can no longer find major bugs. Then to Canary when the real users report a few major issues and the system seems reliable. Then to production when the canary group shows no real problems and the version is safe for everyone.