Basics

1. How do you deal with flaky tests?

Answer: Basically, flaky test gives you positive and negative results on a working code. We can see this issue without doing any code changes.

I have mentioned below the list of ways where we can deal flaky tests. I have mentioned what are all the common factors which creates flaky test and how we can deal with it.

* Proper usage of test data will reduce the flaky test.
* If the test data is static, it is ok to read the data from the file. In case if the data is dynamic, I will get the data from another test where the data is getting generated.
* Scenario or the order which test cases are aligned will create the problem.
* Sometimes because of delay in previous test we will get the issue with the current test.
* This can be reduced by making the test independent of each other if it is not relevant or changing the test order will solve the problem.
* Timeout.
* Sometimes it takes time for web element to load. Even though the code which written is correct it might fail because of the external issue. This can be handled by having proper wait.
* Run each test multiple times to understand the pattern.
* Schedule a test to run multiple time using pipeline to understand whether the flaky test is because of the day/time it is running or it is because of parallel run.
* Once it is identified isolate the test which creating the issue and find the solution for it. Once the solution is identified we can add that test back.
* Exception Handling
* Handling exceptions even when the test fails will gives us better results.
* Environmental Change
* Not every code will work in all the environment. We should ensure that code is written in such a way is supports all the environment and browser.
* Following proper coding standard and having proper framework will reduce the flaky test

1. Let's suppose there is a test pipeline taking about 1 hour to finish, what would you do to decrease the time of it?

Answer: There are multiple approach we can go for in reducing the time of the run which pipeline is taking. I have listed out approach which I carry below.

* Split the test cases/build according to the category. Analyze what test we are going to run. We don’t need to run all the test every time.

For e.g., if we are going to run “**Regression or Sanity**” we will be taking the test what is required for running regression or sanity instead running all the test which will reduce some time

* **Run the jobs in parallel** this will reduce the time taken for test to run.
* Use cache technique. Cache the dependencies instead of running it every time. But cache is not recommended all the time.

1. Imagine you have the possibility to ask software engineers to develop tools for you that will increase your productivity as full-stack QA, please describe to them your requirements?

Answer: Like Full Stack Developer, being a Full Stack QA, we need perform Manual testing, Automating Web application/Desktop application, Mobile Testing, API Testing, Performance testing, DB testing etc.

To work on the testing tools QA person should have defined requirement. A QA person should decide what are all the tools required to accomplish the above testing.

As mentioned above my requirements are based on what test I am going to do.

* I will determine the Automation tool requirement based on what technologies/Programming language we are going to use in the project.
* It is wise to choose the automation tool with the technology which is going to be used in the project.
* Based on the application workflow we need to define the requirement whether we are going to carry out “SOAP or REST API” automation and tool which developer creates support those.
* We define the requirement in such a way so the tool can adapt CI/CD pipeline, supports source control version(Github/Gitlab)
* We need to describe the testing methodologies which we are following.
* We need to describe testing approach like framework which we are following.

For e.g., whether is BDD/ Robot framework

* We need to describe Architectural style(Microservice). If it is micro service then the usage of Docker, Kubernetes comes into the play.
* We need to describe what database we are using.
* If it is a mobile application, we need to mention whether the application is native or hybrid.
* If it is for performance/security what is the standard or requirement defined in HLD