**Researched**

* **Git and GitHub**
* **What is Git?**
* Git is a popular version control system. It was created by Linus Torvalds in 2005, and has been maintained by Junio Hamano since then.
* Link: <https://www.w3schools.com/git/git_intro.asp?remote=github>
* **What is GitHub?**
* Git is not the same as GitHub. GitHub makes tools that use Git. GitHub is the largest host of source code in the world, and has been owned by Microsoft since 2018. In this tutorial, we will focus on using Git with GitHub.
* Link: <https://www.w3schools.com/git/git_intro.asp?remote=github>
* **What does Git do?**
* Manage projects with Repositories. Clone a project to work on a local copy. Control and track changes with Staging and Committing. Branch and Merge to allow for work on different parts and versions of a project. Pull the latest version of the project to a local copy. Push local updates to the main project
* Link: <https://www.w3schools.com/git/git_intro.asp?remote=github>
* **How to GIT Clone, Commit & Push using VSCode?**
* Video Tutorial:[**https://www.youtube.com/watch?v=lYiE5lBS13E**](https://www.youtube.com/watch?v=lYiE5lBS13E)
* **React Native**
* **What is React Native?**
* React Native lets you build mobile apps using only JavaScript. It uses the same design as React, letting you compose a rich mobile UI from declarative components.
* Link: <https://www.tutorialspoint.com/react_native/react_native_quick_guide.htm>
* **How to use React Native?**
* Video Tutorial: <https://www.youtube.com/watch?v=Hp9sTsiTZ_I>
* **Expo**
* **What is Expo?**
* Expo is a powerful toolkit built around React Native that simplifies the app development process. It provides a set of tools and services that help developers build, test, and deploy mobile apps faster without needing deep knowledge of native code.
* Link: <https://blog.risingstack.com/a-definitive-react-native-guide-for-react-developers/>
* **How to create react native with expo framework?**
* Video Tutorial: <https://youtu.be/Hp9sTsiTZ_I?si=sg2vLXStY0SGDO6I>
* Jest
* **What is Jest?**
* Jest is an open-source testing framework built on JavaScript, designed majorly to work with React and React Native based web applications.
* Link: <https://www.browserstack.com/guide/jest-framework-tutorial>
* **How to test JavaScript code using the Jest testing framework?**

Video Tutorial: <https://www.youtube.com/watch?v=IPiUDhwnZxA>

* **TDD (Test-Driven Development)**
* **What Is Test Driven Development?**
* TDD is a software development process relying on software requirements to be converted to test cases.
* Link: <https://jaenhosjsaon.medium.com/test-driven-development-tdd-568a4ec508ce>
* **How to implement TDD?**
* Video Tutorial: <https://www.youtube.com/watch?v=Jv2uxzhPFl4&t=152s>
* **Unit Testing**
* **What is Unit Testing?**
* Unit testing is a software testing method in which individual components or modules of an application are tested in isolation to verify their correctness.
* Link: <https://www.browserstack.com/guide/unit-testing-a-detailed-guide>
* **Why Perform Unit Testing?**
* **Here is why you must perform unit testing of applications:**
* **Ensures individual pieces of code work as intended.**
* **Helps catch bugs early, before they become bigger issues.**
* **Simplifies fixing problems in the development phase.**
* **Improves code reliability from the start of the project.**
* **Reduces the risk of defects in later testing stages.**
* **What the types of Unit Testing?**

1. Manual unit testing involves executing test cases manually without the help of automation tools.
2. Automated unit testing involves writing and running test cases using specialized frameworks and tools like [JUnit](https://www.browserstack.com/guide/junit-and-automation-testing), pytest, [NUnit](https://www.browserstack.com/guide/getting-started-with-selenium-and-nunit-framework" \o "Getting started with Selenium and NUnit Framework: Tutorial" \t "_blank), or [TestNG](https://www.browserstack.com/guide/what-is-testng).

* **How to do Unit Testing?**
* Video Tutorial: <https://www.youtube.com/watch?v=zuKbR4Q428o>