**Git Commands**

echo “# React\_Counter” >> README.md

git init

git add README.md

git commit -m “first commit”

git branch -M main

git remote add origin <https://github>.com/MoizSethi/Repository.git

git push -u origin main

**React Installation**

**NPX Node Package Executor**

**NPM Node Package Manager**

**Old Method Non-Optimized with Node Pack Non-Restricted Version We can use both upper and lower cases in Naming**

npx create-react app AppName

**TO RUN APP**

npm run start

**The new method is React with Vite Optimized Without Node Only Necessary Dependency To React Strict with Syntax App Name must Start with Capital Letter.**

npm create-vite@latest

Once Installed we need to run extra command

**Npm install or NPM i**

To install node package for the project

**TO RUN APP**

npm run dev

**Hooks**

React Hooks are a new addition to React that allow you to use state and other React features without writing a class component. JavaScript functions known as “Hooks” allow you to “hook into” React state and lifecycle features from function components.



React controls UI updation We use hooks to Control states.

**Important Notes**

**TOPICS:**

* Virtual DOM
* Fibre
* Reconciliation

**Virtual DOM:**

“createRoot” is an element that creates a virtual DOM or replicates DOM structure. It will Compare the Main DOM with the Virtual DOM. When we refresh or change the page it will repaint the whole DOM. The benefit of using Virtual DOM when we refresh or navigate the page will only replace the DOM where necessary.

**React Fiber Architecture**

React Fiber is an ongoing reimplementation of React’s core algorithm.

**Goal**

Suitability for areas like Animation Layout and Gestures.

**Features:**

Pause, Abort or reuse work as new update in; the ability to assign priority to different types of updates; and new concurrency primitives.

**What is reconciliation?**

**Reconciliation**

The algorithm React uses to diff one tree with another to determine which part has to be changed.

**Update**

A change in the data used to render a React App. Usually the results of ‘setState’. Eventually results in a re-render.

Reconciliation is the algorithm behind what is popularly understood as the “virtual DOM”.

Although Fiber is a ground up rewrite of the reconciler, the high level algorithm described in the React Docs will be largely the same.

The Key Points:

* Different component types are assumed to generate substantially different trees React will not attempt to diff them but rather replace the old tree completely.
* Diffing of list is performed using keys. Keys should be “Stable, predictable, and unique.”