1. **REACT.JS:** React is a JavaScript-based UI development library. Facebook and an open-source developer community run it. Although React is a library rather than a language, it is widely used in web development. The library first appeared in May 2013 and is now one of the most commonly used frontend libraries for web development. React offers various extensions for entire application architectural support, such as Flux and React Native, beyond mere UI. React makes it easier to create dynamic web applications because it requires less coding and offers more functionality, as opposed to JavaScript, where coding often gets complex very quickly. React uses Virtual DOM, thereby creating web applications faster. Virtual DOM compares the components’ previous states and updates only the items in the Real DOM that were changed, instead of updating all of the components again, as conventional web applications do.  Components are the building blocks of any React application, and a single app usually consists of multiple components. These components have their logic and controls, and they can be reused throughout the application, which in turn dramatically reduces the application’s development time. React follows a unidirectional data flow. This means that when designing a React app, developers often nest child components within parent components. Since the data flows in a single direction, it becomes easier to debug errors and know where a problem occurs in an application at the moment in question. React is easy to learn, as it mostly combines [basic HTML](https://www.simplilearn.com/tutorials/html-tutorial/what-is-html) and JavaScript concepts with some beneficial additions. Still, as is the case with other tools and frameworks, you have to spend some time to get a proper understanding of React’s library. There is a framework called React Native, derived from React itself, that is hugely popular and is used for creating beautiful mobile applications. So, in reality, React can be used for making both web and mobile applications. Facebook has released a Chrome extension that can be used to debug React applications. This makes the process of debugging React web applications faster and easier.
2. **REDUX:** Redux is a predictable state container for JavaScript applications. It helps you write apps that behave consistently, run in different environments (client, server, and native), and are easy to test. Redux manages an application’s state with a single global object called Store. State transfer between components is pretty messy in React since it is hard to keep track of which component the data is coming from. It becomes really complicated if users are working with a large number of states within an application. Redux solves the state transfer problem by storing all of the states in a single place called a store. So, managing and transferring states become easier as all the states are stored in the same convenience store. Every component in the application can then directly access the required state from that store. There is always one source of truth, the store. Thus, there is no confusion about how to sync the current state with actions and other parts of the application. The code is easier to maintain because it has a predictable outcome and strict structure. Redux makes coding more consistent due to more stringent code organization procedures. It’s very useful, especially during the initial render, making for a better user experience and search engine optimization. Developers can track everything going on in the app in real-time—from actions to state changes. Since it has no encapsulation, any component can access data, which may potentially cause security issues. Some parts of the code are just boilerplate. However, these parts have to be incorporated with no alteration, and this restricts the design. As the state is immutable in Redux, the reducer updates the state by returning a new state every time which can cause excessive use of memory.
3. **JAVASCRIPT:** JavaScript is a lightweight, interpreted programming language. It is designed for creating network-centric applications. It is complementary to and integrated with Java. JavaScript is very easy to implement because it is integrated with HTML. It is open and cross-platform. JavaScript is a MUST for students and working professionals to become a great Software Engineer specially when they are working in Web Development Domain. JavaScript is the most popular programming language in the world and that makes it a programmer’s great choice. Once you learned JavaScript, it helps you develop great front-end as well as back-end software’s using different JavaScript-based frameworks like jQuery, Node.JS, etc. JavaScript is everywhere, it comes installed on every modern web browser and so to learn JavaScript you really do not need any special environment setup. For example, Chrome, Mozilla Firefox, Safari, and every browser you know as of today, supports JavaScript. JavaScript helps you create really beautiful and crazy fast websites. You can develop your website with a console-like a look and feel and give your users the best Graphical User Experience. JavaScript usage has now extended to mobile app development, desktop app development, and game development. This opens many opportunities for you as JavaScript Programmer. Due to high demand, there is tons of job growth and high pay for those who know JavaScript. You can navigate over to different job sites to see what having JavaScript skills looks like in the job market. The great thing about JavaScript is that you will find tons of frameworks and Libraries already developed which can be used directly in your software development to reduce your time to market. There are many useful JavaScript frameworks and libraries available: Angular, React, jQuery, Vue.js, Ext.js, Ember.js, Meteor, Mithril, Node.js, Polymer, Aurelia, and Backbone.js This is really important to verify any user input before submitting it to the server and JavaScript plays an important role in validating those inputs at front-end itself. JavaScript helps in manipulating HTML pages on the fly. This helps in adding and deleting any HTML tag very easily using JavaScript and modifying your HTML to change its look and feel based on different devices and requirements. You can use JavaScript to raise dynamic pop-ups on the web pages to give different types of notifications to your website visitors. JavaScript provides Ajax library which helps in loading back-end data while you are doing some other processing. This really gives an amazing experience to your website visitors. JavaScript also provides the facility of creating presentations that give the website a look and feel. JavaScript provides RevealJS and BespokeJS libraries to build a web-based slide presentation. Node JS is built on Chrome's JavaScript runtime for building fast and scalable network applications. This is an event-based library that helps in developing very sophisticated server applications including Web Servers.

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