**What are some competitors/alternatives to React? What makes them different? List at least 2.**

Angular and Vue are competitive frameworks to React. They all are used to develop web applications. They each however take a different approach towards that end.

React is characterized as a lightweight Open-Source framework that is focused on a web-based User Interface development. It uses a virtual DOM to track and publish changes in the UI presentation. React is quite limited in reach and capabilities relies on third party tools and frameworks to offer a developer a complete solution. The view layer of a React application relies on JSX (JavaScript Expressions) which combines HTML and CSS together into JavaScript.

Angular is also an Open-Source JavaScript Framework used to create mobile and web-based applications. It is considered a full-fledged framework. It incorporates a large number of built-in libraries and typically does not need or require additional third-party components. Angular manipulates the DOM and lacks the concept of the virtual DOM used in React. To assist with update speed, Angular implements a change detection feature to identify components in the DOM that need to be altered.

Vue is also an Open-Source framework used to create mobile and web-based applications. Like React, it implements a virtual DOM and is considered lightweight. Vue uses HTML templates as a standard method for realizing the view layer of an application. Vue is perceived to be an easy and lightweight framework with a short learning curve focused on smaller web applications. Vue also includes a built-in state management library unlike React.

**What is React's virtual DOM, why is it important, and how does it work?**

React uses a virtual Document Object Model (DOM). This is a memory cache of data structures representing the UI that are used to figure out UI changes, and efficiently updates the real DOM displayed in the client browser. This approach enables easily updating minor data changes in one element without updating the structure of the entire tree. The entire page seems to be rendered on each change, whereas actually, the libraries render changed subcomponents only. The framework handles rendering these changes automatically.