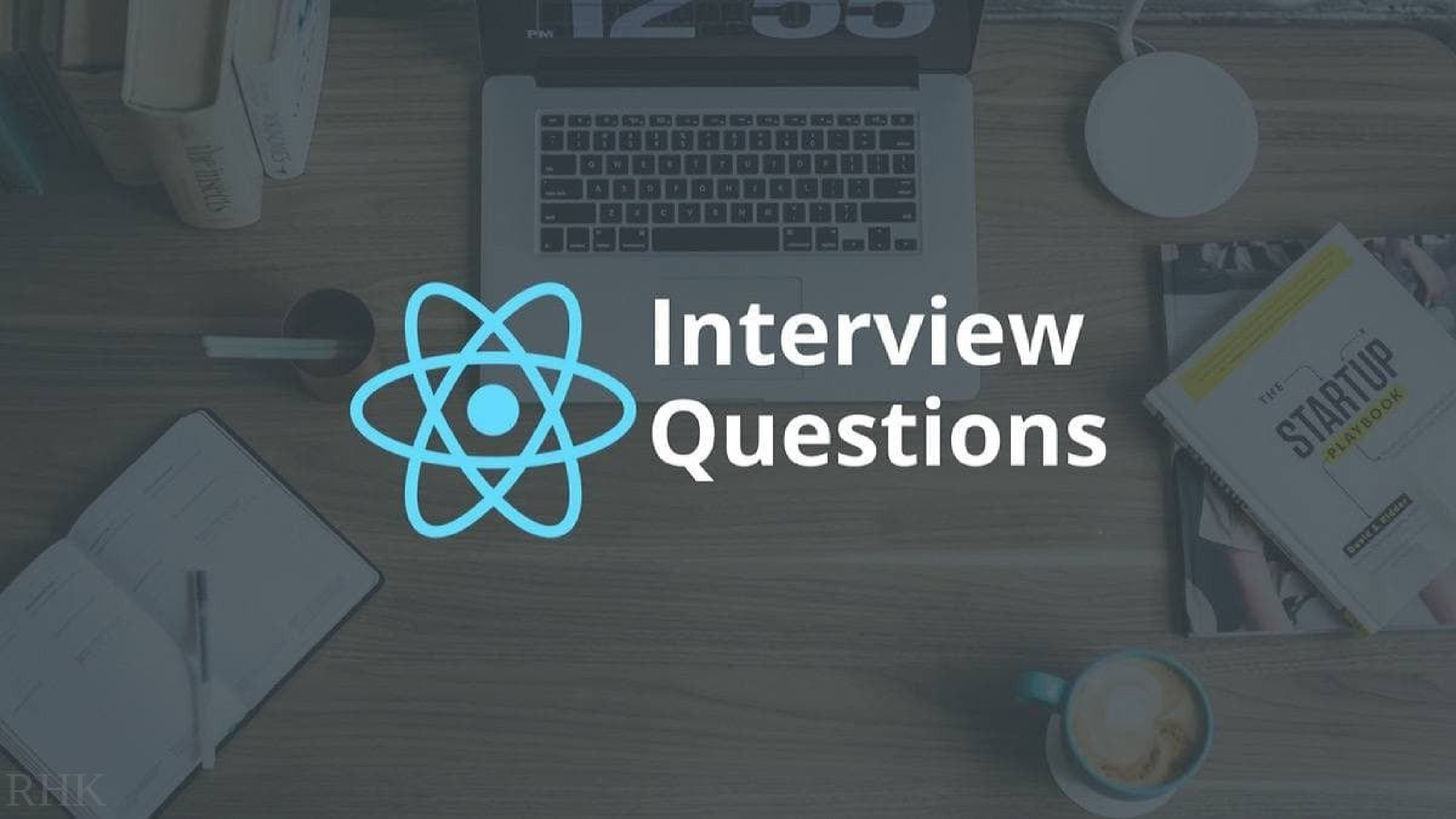
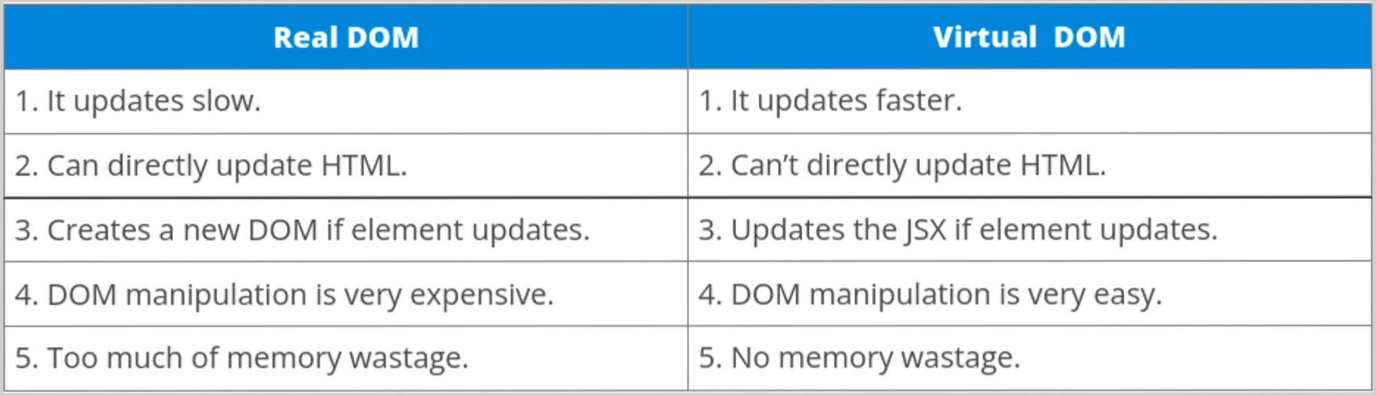


Interview Questions

1- What is React ?

- React is a front-end JavaScript library developed by Facebook in 2011.
- It follows the component based approach which helps in building reusable UI components.
- It is used for developing complex and interactive web and mobile UI.
- Even though it was open-sourced only in 2015, it has one of the largest communities supporting it.

2- Differentiate between Real DOM and Virtual DOM ?



Real DOM	Virtual DOM
1. It updates slow.	1. It updates faster.
2. Can directly update HTML.	2. Can't directly update HTML.
3. Creates a new DOM if element updates.	3. Updates the JSX if element updates.
4. DOM manipulation is very expensive.	4. DOM manipulation is very easy.
5. Too much of memory wastage.	5. No memory wastage.

3- What are the features of React?

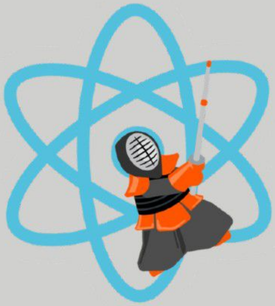
Major features of React are listed below:

- It uses the virtual DOM instead of the real DOM.
- It uses server-side rendering.
- It follows uni-directional data flow or data binding.

4- List some of the major advantages of React.

Some of the major advantages of React are:

- It increases the application’s performance
- It can be conveniently used on the client as well as server side
- Because of JSX, code’s readability increases
- React is easy to integrate with other frameworks like Meteor, Angular, etc
- Using React, writing UI test cases become extremely easy



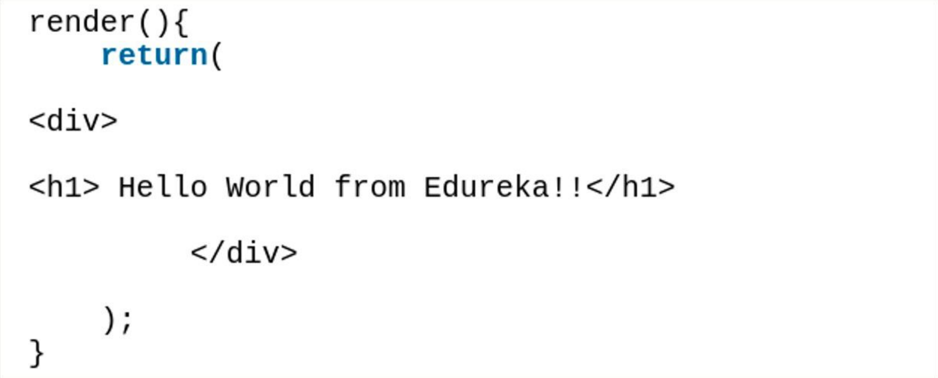
5- What are the limitations of React ?

Limitations of React are listed below:

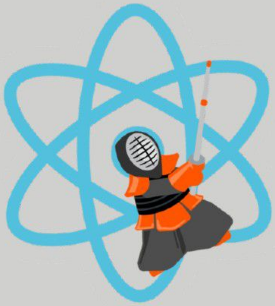
React is just a library, not a full-blown framework
Its library is very large and takes time to understand
It can be little difficult for the novice programmers to understand
Coding gets complex as it uses inline templating and JSX

6- What is JSX ?

JSX is a shorthand for JavaScript XML. This is a type of file used by React which utilizes the expressiveness of JavaScript along with HTML like template syntax. This makes the HTML file really easy to understand. This file makes applications robust and boosts its performance. Below is an example of JSX:



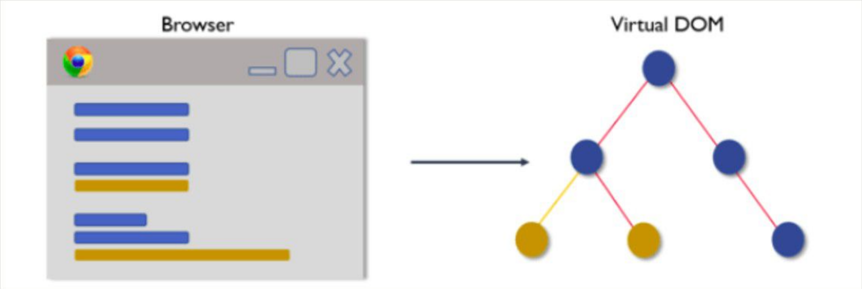
```
render(){
    return(

<div>

<h1> Hello World from Edureka!!</h1>

         </div>

    );
}
```



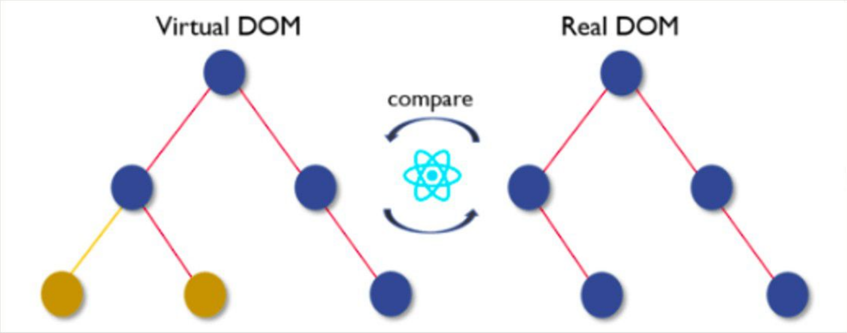
7- What do you understand by Virtual DOM? Explain its works ?

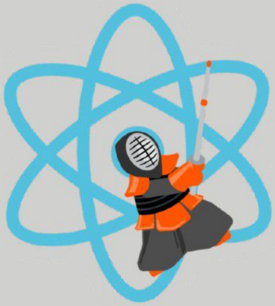
A virtual DOM is a lightweight JavaScript object which originally is just a copy of the real DOM. It is a node tree that lists the elements, their attributes and content as Objects and their properties. React's render function creates a node tree out of the React components. It then updates this tree in response to the mutations in the data model which is caused by various actions done by the user or by the system.
This Virtual DOM works in three simple steps.

1- Whenever any underlying data changes, the entire UI is re-rendered in Virtual DOM representation.



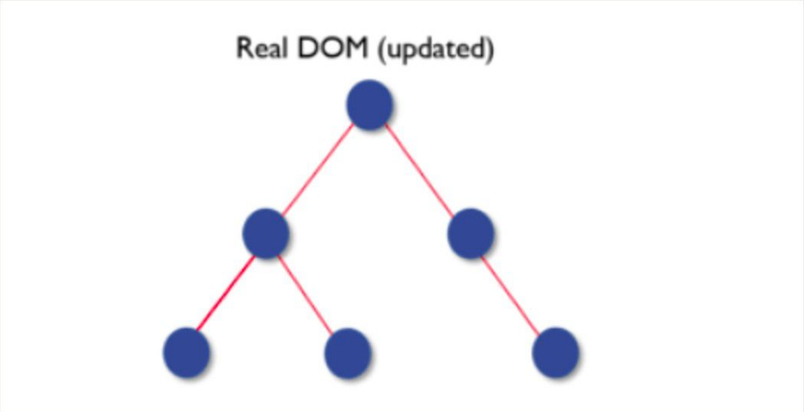
2- Then the difference between the previous DOM representation and the new one is calculated.



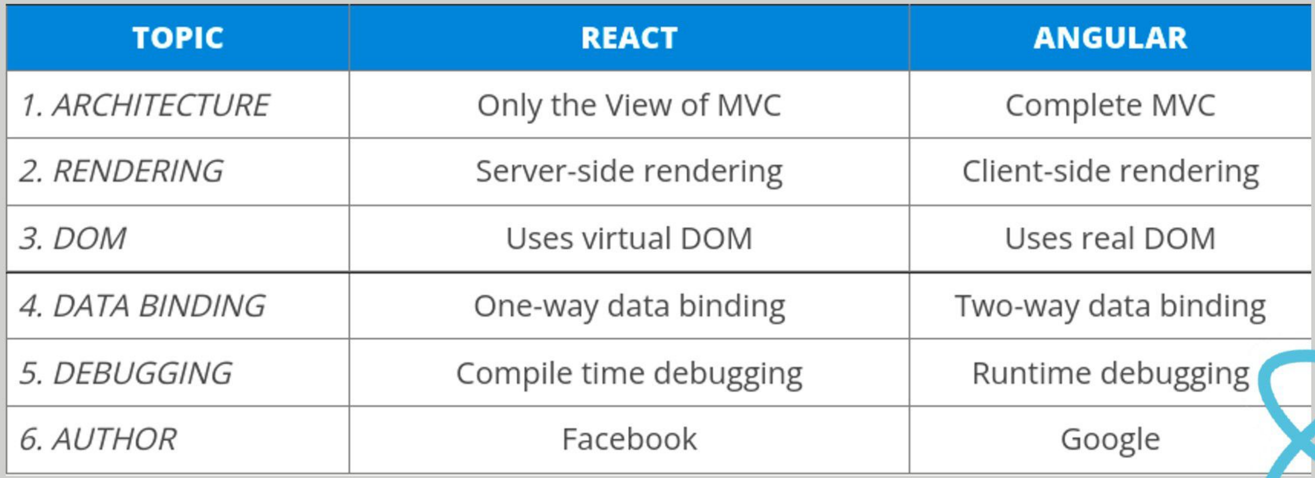


7- What do you understand by Virtual DOM? Explain its works ?

3- Once the calculations are done, the real DOM will be updated with only the things that have actually changed.



8- How is React different from Angular ?



TOPIC	REACT	ANGULAR
1. ARCHITECTURE	Only the View of MVC	Complete MVC
2. RENDERING	Server-side rendering	Client-side rendering
3. DOM	Uses virtual DOM	Uses real DOM
4. DATA BINDING	One-way data binding	Two-way data binding
5. DEBUGGING	Compile time debugging	Runtime debugging
6. AUTHOR	Facebook	Google

9- In React, everything is a component." Explain ?

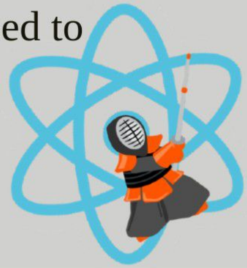
Components are the building blocks of a React application's UI. These components split up the entire UI into small independent and reusable pieces. Then it renders each of these components independent of each other without affecting the rest of the UI.

10- What is the purpose of render() in React ?

Each React component must have a render() mandatorily. It returns a single React element which is the representation of the native DOM component. If more than one HTML element needs to be rendered, then they must be grouped together inside one enclosing tag such as <form>, <group>,<div> etc. This function must be kept pure i.e., it must return the same result each time it is invoked.

11- What is Props ?

Props is the shorthand for Properties in React. They are read-only components which must be kept pure i.e. immutable. They are always passed down from the parent to the child components throughout the application. A child component can never send a prop back to the parent component. This help in maintaining the unidirectional data flow and are generally used to render the dynamically generated data.

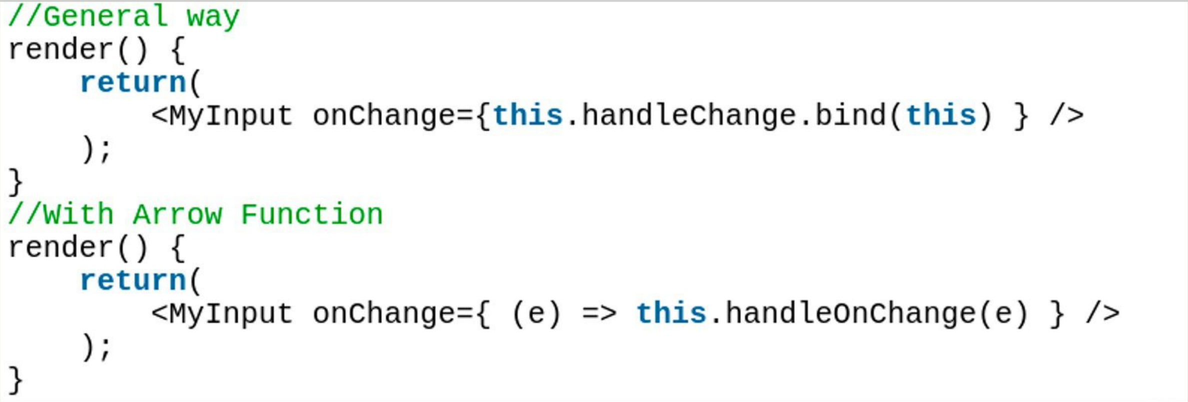


12- What is a state in React and how is it used ?

States are the heart of React components. States are the source of data and must be kept as simple as possible. Basically, states are the objects which determine components rendering and behavior. They are mutable unlike the props and create dynamic and interactive components. They are accessed via this.state().

13- What is arrow function in React? How is it used ?

Arrow functions are more of brief syntax for writing the function expression. They are also called ‘fat arrow‘ (=>) the functions. These functions allow to bind the context of the components properly since in ES6 auto binding is not available by default. Arrow functions are mostly useful while working with the higher order functions.



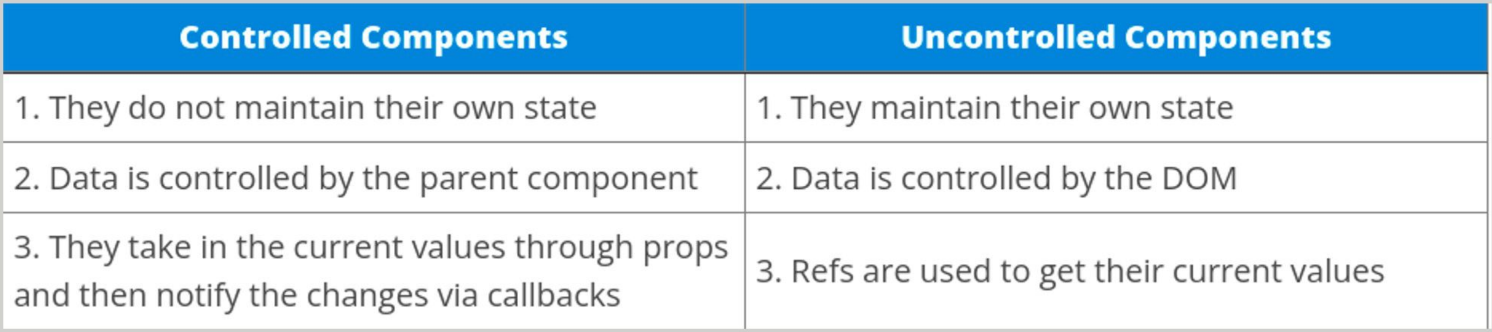
```
//General way
render() {
    return(
        <MyInput onChange={this.handleChange.bind(this) } />
    );
}
//With Arrow Function
render() {
    return(
        <MyInput onChange={ (e) => this.handleOnChange(e) } />
    );
}
```

14- Explain the lifecycle methods of React components in detail ?

Some of the most important lifecycle methods are:

- componentWillMount() – Executed just before rendering takes place both on the client as well as server-side.
componentDidMount() – Executed on the client side only after the first render.
- componentWillReceiveProps() – Invoked as soon as the props are received from the parent class and before another render is called.
- shouldComponentUpdate() – Returns true or false value based on certain conditions. If you want your component to update, return true else return false. By default, it returns false.
- componentWillUpdate() – Called just before rendering takes place in the DOM.
- componentDidUpdate() – Called immediately after rendering takes place.
- componentWillUnmount() – Called after the component is unmounted from the DOM. It is used to clear up the memory spaces.

15- What do you know about controlled and uncontrolled components ?



Controlled Components	Uncontrolled Components
1. They do not maintain their own state	1. They maintain their own state
2. Data is controlled by the parent component	2. Data is controlled by the DOM
3. They take in the current values through props and then notify the changes via callbacks	3. Refs are used to get their current values

16- What are Higher Order Components(HOC) ?

Higher Order Component is an advanced way of reusing the component logic. Basically, it’s a pattern that is derived from React’s compositional nature. HOC are custom components which wrap another component within it. They can accept any dynamically provided child component but they won’t modify or copy any behavior from their input components. You can say that HOC are ‘pure’ components.

17- What is React Router ?

React Router is a powerful routing library built on top of React, which helps in adding new screens and flows to the application. This keeps the URL in sync with data that’s being displayed on the web page. It maintains a standardized structure and behavior and is used for developing single page web applications.