1. **ES6 Key Concepts**

**Logical && - Logical ||**

* The && operator returns true if both expressions are true, otherwise it returns false.
* The || returns true if one or both expressions are true, otherwise it returns false.

**Template literals**

* hey allow you to embed JavaScript expressions directly into HTML strings.

**Ternary operators**

* JavaScript also contains a conditional operator that assigns a value to a variable based on some condition

**Object and Array De-structuring**

* **Object De-structuring** 
  + JavaScript Object De-structuring is the syntax for extracting values from an object property and assigning them to a variable.
  + When de-structuring objects, we use ***curly braces*** with the exact name of what we have in the object.
* **Array De-structuring** 
  + To de-structure an array in JavaScript, we use the square brackets [] to store the variable name which will be assigned to the name of the array storing the element.

**Default parameters, spread operators and rest parameters**

* **Default parameters**
  + We can provide default values for function parameters. These default values are used when the function is called without passing the corresponding arguments.
* **Spread Operator**
  + The JavaScript spread operator ( ... ) allows us to quickly copy all or part of an existing array or object into another array or object.
* **Rest Operator parameters**
  + Rest Operator (…b) is a type of parameter that gets all of the remaining parameters of a function call via an Array.

**ES6 Array Methods**

map, filter, find, some, every, includes, indexOf, findIndex

* **map()**
  + map() creates a new array from calling a function for every array element.
  + map() does not execute the function for empty elements.
* **filter()**
  + The **filter() method** creates a new array containing elements that satisfy a specified condition.
  + This method skips empty elements and does not change the original array.
* **find()**
  + The find() method returns the value of the first array element that passes a test function.
* **some()**
  + The some() method checks if any of the array element pass a test (condition). -> Means that if some array elements satisfied the condition then it will return true otherwise false
* **every()**
  + The every() method checks if all the array elements pass a test (condition). Means that if all elements satisfy the condition then it will return true otherwise false
* **includes()**
  + The includes() method allows us to check if an element is present in an array then it will return true otherwise false
* **indexOf()**
  + The indexOf() method searches an array for an element value and returns its position.
  + if it finds the element then it will return the position of that element otherwise it will return `-1` which means element doesn't exist
* **findeIndex()**
  + The findIndex() method returns the index of the first array element that passes a test function.
  + If it finds the element then it will return the position of that element otherwise it will return `-1` which means element doesn't exist

**Async await API call example**

* **async and await make promises easier to write**.
  + async makes a function return a Promise.
  + await makes a function wait for a Promise.

1. **React Fundamentals**

**Installing React App**

* **Using npx create-react-app** *project-name --> npm start*
* **Using npm create vite@latest** *--> npm run dev*
  + Write project name
  + Select any framework like react
  + Select any variant like javascript

**Class and Functional Components**

* **Class Components**
  + Old method to create components using classes
  + It start with ***class keyword*** then give the component name after that it will be ***extends*** from react components
  + Inside the component class ***render*** function will ***return*** the all HTML
* **Functional Components**
  + New method to create components using function
  + It start with a function keyword then give the function/component name after that it will return the all HTML
* **Nested Components**
  + Nested Components refer to components that are used within other components,
  + App -> ProductList -> ProductItem -> ButtonComponent

**Props**

* Props can communicate the two components to each other and is a way to pass data from one component to another.
* Props will be the objects that are passed from the 'parent component' to the 'child' using key value pair
* First pass the props from parent component and then de-structure it in child component and then use it anywhere in the child compo…

**Styling React App**

* Using tailwind css

**State and setState**

**Life Cycle Hooks**

**Conditional Statements**

1. **React Essential Hooks**

**useState**

**useEffect**

**data Fetching**

**Managing Loading State**

**Context Api’s**

**useContext**

**useReducer**

1. **Todo App**