

Good Morning :))

1. component based architecture --- components are integrated
  2. only one html -- index.html in the public folder  
it has a `<div id="root"></div>`
  3. index.js -- it renders the root component inside the div  
`root.render(<App></App> )`
  4. App.js ---- functional component  
return one JSX , for multiple JSX tags- WRAP
  5. JSX = view code --- html like tags --- one JSX tag = one object
  6. to print variables in JSX = `{num1}`
  7. to pass data from parent component to child component = using PROPS
  8. where do we pass the props = In the opening tag as ATTRIBUTE
  9. Component can collect the props  

```
function Maths(props)
{
}
```

Who calls Maths? React Container  
Who will pass the props ? React Container
  10. What can we pass in props ? all data types = number, string, arr, object, function , boolean
- 

2 types of React component --

1. functional components
2. class components

Ex1 = Write a class component that generates a JSX that prints "Hello"

1. write a class
2. inherit using `extends React.Component`
3. write a `render()` that returns JSX  
WE dont call `render()` --it is called by the React Container
4. export the class
5. import it in App and use the tag

In Src folder =

- create a subfolder day2
- create a App1.js
- add the App1 tag in index.js
- we will add the Hello class component to App1

Ex2 --- Pass a name to the Hello class Component using props

Ex3 --- write an external css and use it in component Hello

Ex4 -- using props pass the color of the font and set the color accordingly

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## EVENT HANDLING in React -----

Difference between

React onClick={handler} -----Register the handler with React Container  
and

JS onclick="handler()" -----Call the handler

Ex 5 ---- Write a functional component sayHi that  
returns a JSX to display a button  
when the button is clicked print hi in the console .

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comments

HTML <!-- comment -->

css /\* \*/

JS and JQuery // or /\* \*/

React JSX {/\* comment here \*/}

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ISSUE ----- if the UI needs to be changed on events  
how to do it ?

USE state !!!

state is a data that is maintained by the React container  
such that

whenever the state is changed

the component IS RERENDERED !!!

RERENDER = Draw the JSX AGAIN so that the new values are seen

To use the state we will use a REACT HOOK ---- useState()

useState = library function of react . we have to call it

= parameter is the initial value of state data

= return value is an array of 2 elements

index 0 =first element is the state variable value

index 1 =second element is a function that can be used to change the state

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Ex 6 - Write a function component ShowMonthName

The JSX should show a dropdown list with numbers from 1 to 12

When any number is selected show the monthname in <p>

**ISSUE : How to get the selected number in the handler ?**

**We want the React Container to pass a **event object** to the handler**

We will extract the value using the event.target.value

In our example -----

**Event** = change event

**Event Target** = HTML Element on which change occurred = **select tag**

## Event Handling and State in Class Component :

Ex 7 : Write a class component HalfString that has a textfield and on changing the textfield  
Half the string is shown in the <p> tag in Uppercase

Remember : Hooks are used in function components only. We cant use useState in HalfString.

To have state in the class component

Create property **state** and use a **setState** function of super class

**setState** is used to change the state such that component is rerendered

In class event handling the handler function should be

1. bound using the bind function and we write a simple handler

OR

2. write the handler as lamda function

By using both these approaches we are BINDING the environment with the handler so the handler can understand "this"

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Ex 8 - Class Component --- CaseExample

Accept a string in textfield

Show 1 checkbox --- reverse

Show 3 radio buttons ---- Uppercase, lowercase, titlecase

Depending on the selection show the string in <p> tag

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Ex 9 : Accept the color in App1.js and pass that color to the Hello Component

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### Conditional Rendering in React

--- Render a component only if the condition is true !!!

Ex 10 ---- Write a class Component StudentData

Write a function component EducationalDetails

JSX of StudentData --- show name , email and dob

show a checkbox for Educational Details

If the checkbox is checked then show EducationalDetails component

If the checkbox is uncehcked then DON'T show EducationalDetails component

App1 ----->StudentData----->EducationalDetails

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### List Rendering --

--- Display a list in JSX

Step 1 . Collect the data in an array

Step 2 . Call a map function on the array

Step 3 . Show the return value of map function in the JSX

Ex 11 --- write a functional component ShowList

Create an array of strings

Show the array in <ol>



