React

In React,
- creating UI is as simple as HTML.
- We can re-use the UI like JavaScript

to understand this,
let's create a simple button using React.

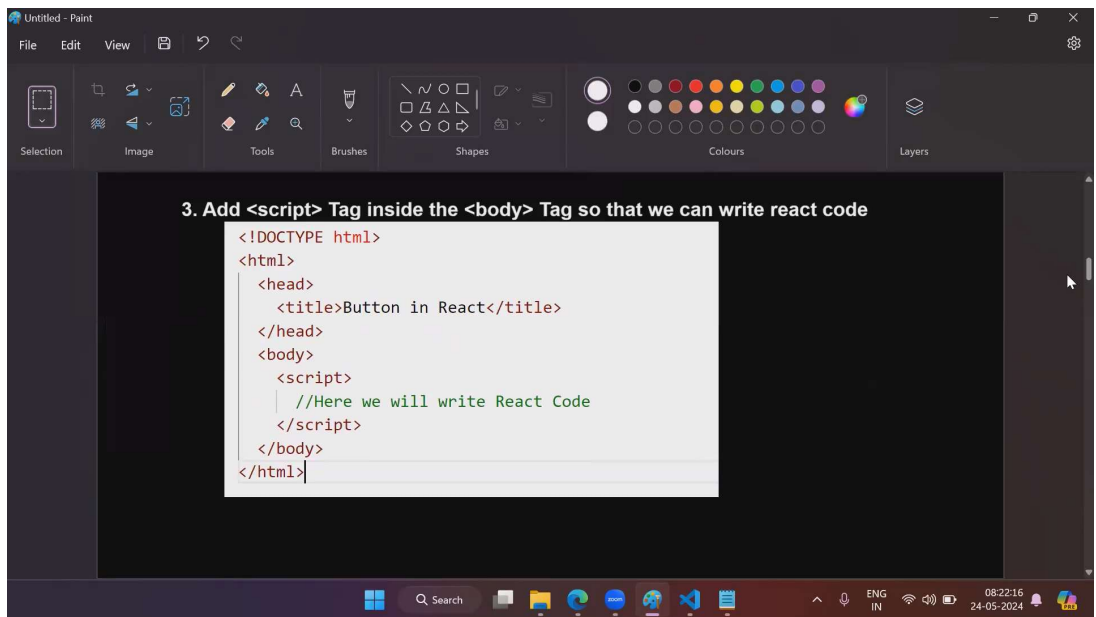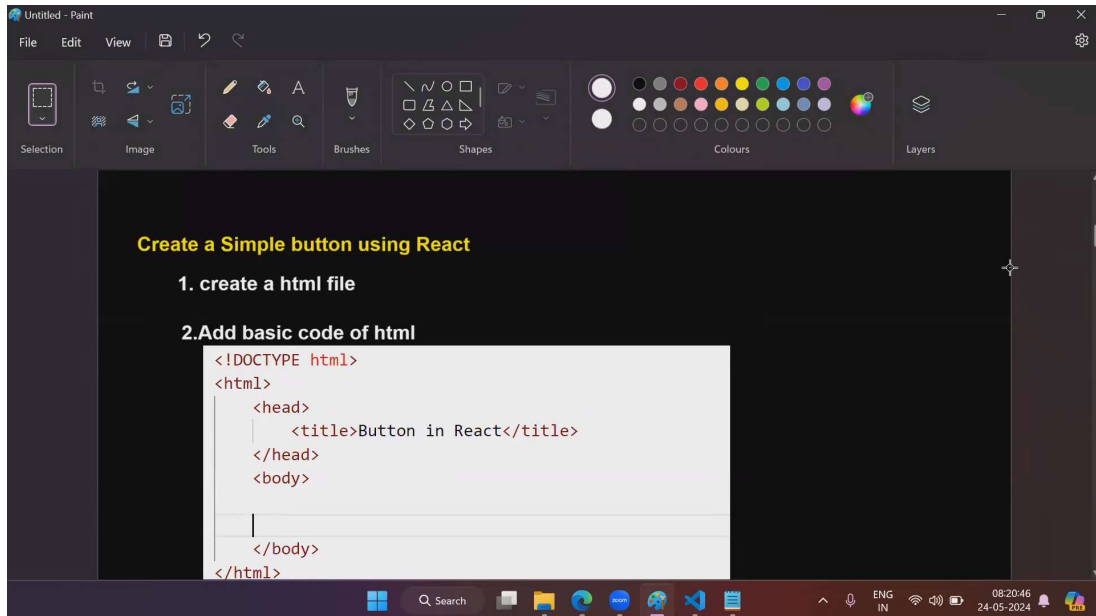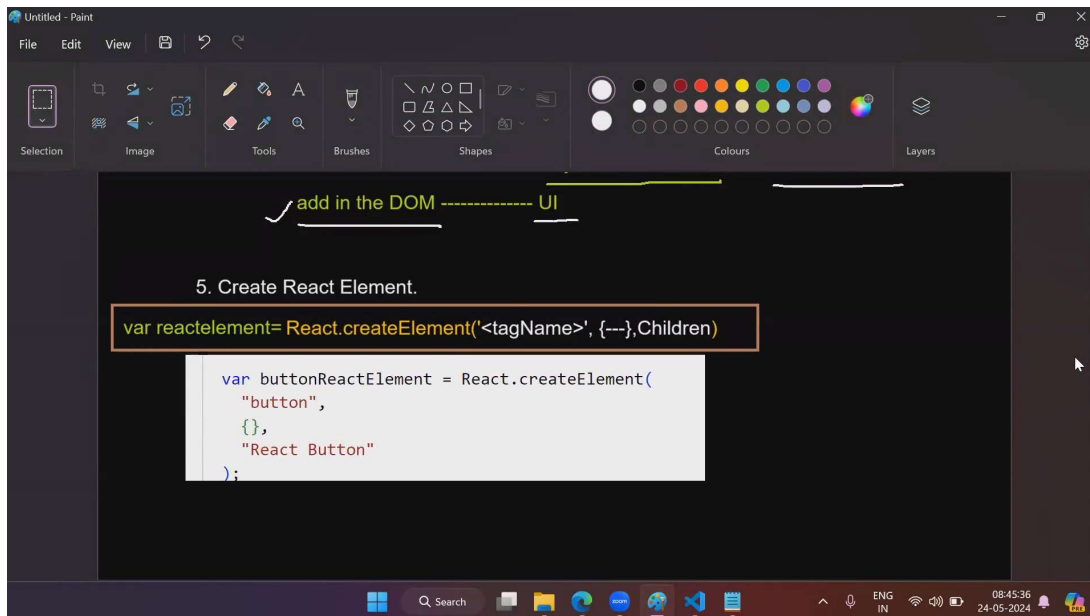we have to follow some steps
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- 1. Create a html file
- 2. Add basic code of html
- 3. Add script tag inside the body tag. so that we can write react code.
- 4. Integrate React JS with HTML Document
  ○ React is a JavaScript Library(Library : collection of predefined functions, classes, objects)

  ○ In HTML to create UserInterface -- html provides -- Elments --> so that we can create UI Components

  ○ Javascrpit -- provides predefined object and function -- DOM Element -- add in the DOM -- so the we can create User Interface

  ○ React -- is providing predefined object and functions -- using these we create React Element -- this React Element in the DOM -- so that we can create UI

- 5. Create React Elemenet,

predefined object	React
predefined method	createElement()
	this function will take 3 arguments
	1st arg -- tagName --> button,..
	2nd arg -- object --> {} --> inside this we will mention the attributes of the elements

	3rd arg -- childern --> childern can be anything that are present between opening tag and closing tag. it may be a content or another tag also.
	
	\<tagName>
	    some content here
	\</tagName>
	or
	
	\<tagName>
	    some content here
	\</tagName>

```
const reactElement = ReactElement("tagName", {}, "content here")
```

- 6. Add React element inside the DOM.
  - ReactDOM is a library which is used to add React Elments inside the DOM.
  - Integrate ReactDOM with HTML Document
  - ReactDOM is providing a function called render().
  - using this React.render() we can dd React element inside the DOM(Original DOM)
  - it takes 2 argument
    - ReactElment
    - DOMReferenceElement
  - ReactDOM.render(buttonReactElement,document.getElementById('body')

Create a Simple button using React

1. create a html file

2.Add basic code of html

```html
<!DOCTYPE html>
<html>
    <head>
        <title>Button in React</title>
    </head>
    <body>


    </body>
</html>
```


3. Add <script> Tag inside the <body> Tag so that we can write react code

```html
<!DOCTYPE html>
<html>
  <head>
    <title>Button in React</title>
  </head>
  <body>
    <script>
      //Here we will write React Code
    </script>
  </body>
</html>
```

add in the DOM -------------- UI

5. Create React Element.

`var reactelement= React.createElement('<tagName>', {---},Children)`

```
var buttonReactElement = React.createElement(
    "button",
    {},
    "React Button"
);
```

Creating UI in React is simple or Complex (using above method)
it looks very similar to the javascript

from, these another concept came --> JSX
- As a ReactDeveloper, you will create JSX element.
- this jsx elements convert into React Element by the compiler called Babel.
- this converted React Element , we will have to add them to React DOM
- From React DOM to Original DOM and then User Interfaces are created

- JSX Elements are similar to the HTML

ReactDev ----- JSX Element --------babel compilers---------- React Elements---
ReactDOM------ DOM------UI

HTML	JSX
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----	var h2 = ---
<button>----</button>	var button = <button> </button>