Assignment 6a

Aim :- WAP to implement the concept of props(pass date as props in functional component) and state (change the background color)

Theory :-

ReactJS

ReactJS is a popular JavaScript library used for building user interfaces in web applications. It follows the concept of a Virtual DOM (Document Object Model), which is a lightweight representation of the actual DOM in memory. This enables React to efficiently manage and update the UI without directly manipulating the real DOM, resulting in better performance.

Props

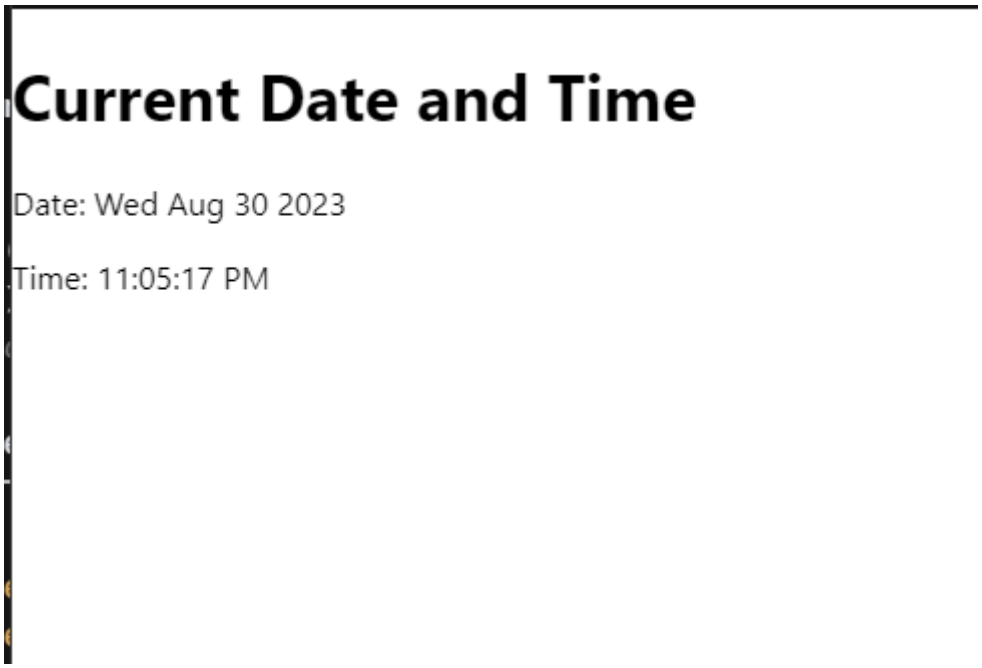
Props, short for "properties," are a way to pass data from a parent component to a child component. Props are read-only and are used to communicate information that doesn't change within the child component. They help you create reusable components that can be customized based on the data they receive.

In the parent component, you define the props and their values when rendering the child component:

Code :-

```
import React, { useState, useEffect } from 'react';


const DateTimeDisplay = () => {
  const [currentDateTime, setCurrentDateTime] = useState(new Date());


  useEffect(() => {
    const intervalId = setInterval(() => {
      setCurrentDateTime(new Date());
    }, 1000);


    return () => clearInterval(intervalId);
  }, []);


  const formattedDate = currentDateTime.toDateString();
  const formattedTime = currentDateTime.toLocaleTimeString();


  return (
```

```
      <div>
        <h1>Current Date and Time</h1>
        <p>Date: {formattedDate}</p>
        <p>Time: {formattedTime}</p>
      </div>
    );
  };

  export default DateTimeDisplay;
```



State:

State represents the mutable data that a component can hold. Unlike props, state is internal to a component and can be changed over time, usually due to user interactions, API calls, or other dynamic factors. When the state of a component changes, React re-renders the component to reflect those changes.

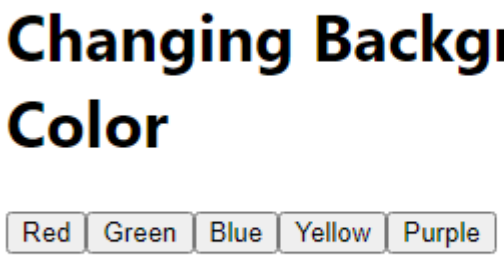
State is initialized within the constructor of a class-based component or using the useState hook in a functional component:

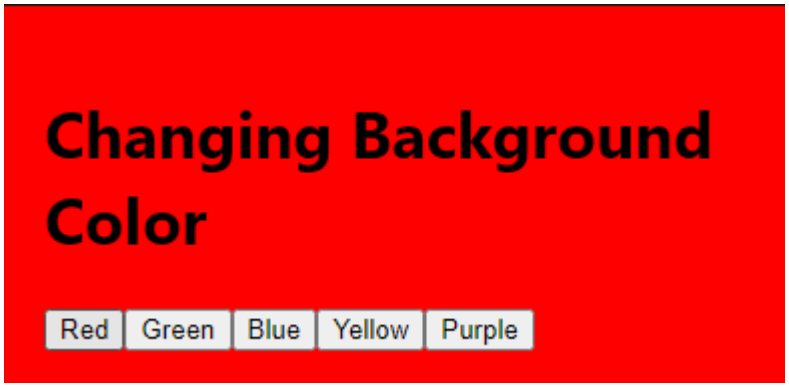
Code

```
import React, { useState } from 'react';
```

```
const ColorChanger = () => {
  const [backgroundColor, setBackgroundColor] = useState('white');

  const changeBackgroundColor = (color) => {
    setBackgroundColor(color);
  };

  return (
    <div style={{ backgroundColor: backgroundColor, padding: '20px' }}>
      <h1>Changing Background Color</h1>
      <button onClick={() => changeBackgroundColor('red')}>Red</button>
      <button onClick={() => changeBackgroundColor('green')}>Green</button>
      <button onClick={() => changeBackgroundColor('blue')}>Blue</button>
      <button onClick={() => changeBackgroundColor('yellow')}>Yellow</button>
      <button onClick={() => changeBackgroundColor('purple')}>Purple</button>
    </div>
  );
};

export default ColorChanger;
```

OutPut :-





CONCLUSION:

In this assignment we learnt a way to pass data from a parent component to a child component using props and change the state of a component using the State**.**