**Batch: A2 Roll No.: 16010121045**

**Experiment No. 1**

|  |
| --- |
| **Title:**  React Basics |

React Basics Implementation.

Consider your own scenario to apply it on  implementation of React Basics.

#### Demonstrate

##### Class Component

##### Function Component

##### Styling/ Bootstrap

##### React JSX

##### Expressions in JSX

##### React Props

##### React state

##### React Component Lifecycle

##### React Events

##### Event Binding

Code:

App.jsx

*import* React *from* 'react';

*import* TodoAppClass *from* './components/TodoAppClass';

*import* TodoAppFunction *from* './components/TodoAppFunction';

function App() {

*return* (

<div>

<TodoAppClass />

<TodoAppFunction />

</div>

);

}

*export* *default* App;

TodoAppClass.jsx

*import* React, { Component } *from* 'react';

*import* TextField *from* '@mui/material/TextField';

*import* Button *from* '@mui/material/Button';

*import* Paper *from* '@mui/material/Paper';

*import* { Grid, Typography } *from* '@mui/material';

class TodoAppClass extends Component {

constructor(props) {

*super*(props);

*this*.state = {

todos: [],

newTodo: '',

};

}

handleInputChange = (event) => {

*this*.setState({ newTodo: event.target.value });

};

handleAddTodo = () => {

*if* (*this*.state.newTodo.trim() !== '') {

*this*.setState((prevState) => ({

todos: [...prevState.todos, prevState.newTodo],

newTodo: '',

}));

}

};

render() {

*return* (

<Paper *elevation*={3} *style*={{ padding: '20px', margin: '20px' }}>

<Typography *variant*="h5" *fontWeight*={500}>

List (Class Component)

</Typography>

<ul>

{*this*.state.todos.map((todo, index) => (

<li *key*={index}>{todo}</li>

))}

</ul>

<Grid

*sx*={{

display: 'flex',

alignItems: 'center',

justifyContent: 'center',

}}

>

<TextField

*label*="Add Todo"

*variant*="outlined"

*value*={*this*.state.newTodo}

*onChange*={*this*.handleInputChange}

*fullWidth*

/>

<Button

*variant*="contained"

*onClick*={*this*.handleAddTodo}

*sx*={{ marginLeft: 2 }}

>

+

</Button>

</Grid>

</Paper>

);

}

}

*export* *default* TodoAppClass;

TodoAppFunction.jsx

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

*import* TextField *from* '@mui/material/TextField';

*import* Button *from* '@mui/material/Button';

*import* Paper *from* '@mui/material/Paper';

*import* { Grid, Typography } *from* '@mui/material';

const TodoAppFunction = () => {

const [todos, setTodos] = useState([]);

const [newTodo, setNewTodo] = useState('');

const handleInputChange = (event) => {

setNewTodo(event.target.value);

};

const handleAddTodo = () => {

*if* (newTodo.trim() !== '') {

setTodos([...todos, newTodo]);

setNewTodo('');

}

};

*return* (

<Paper *elevation*={3} *style*={{ padding: '20px', margin: '20px' }}>

<Typography *variant*="h5" *fontWeight*={500}>

List (Function Component)

</Typography>

<ul>

{todos.map((todo, index) => (

<li *key*={index}>{todo}</li>

))}

</ul>

<Grid

*sx*={{

display: 'flex',

alignItems: 'center',

justifyContent: 'center',

}}

>

<TextField

*label*="Add Todo"

*variant*="outlined"

*value*={newTodo}

*onChange*={handleInputChange}

*fullWidth*

/>

<Button

*variant*="contained"

*onClick*={handleAddTodo}

*sx*={{ marginLeft: 2 }}

>

+

</Button>

</Grid>

</Paper>

);

};

*export* *default* TodoAppFunction;