

SteelEye Limited Frontend Assignment Submission

Respected Dear Sir /Mam here below is the complete solutions of the frontend assignment:

1. Explain what the simple List component does.

The List component receives an array of objects named 'items' as props.

- It iterates through the 'items' array and renders a new component named 'SingleListItem' for each item.
- The 'SingleListItem' component receives a set of props such as 'onClickHandler' function, 'text' string, current index, and 'isSelected' boolean.
- The 'onClickHandler' function handles clicking on each item and sets the 'selectedIndex' hook to the current index.
- The 'isSelected' boolean changes the background color of the list item to green if true and red if false.
- The List component uses hooks to keep track of the selected item index and handles user clicks through the handleClick function.
- The 'WrappedSingleListItem' is a memoized functional component that displays a single item with a background color based on its selection status.
- The 'WrappedListComponent' generates a list of items by using the 'WrappedSingleListItem' component.
- This creates an interactive list of selectable items for users to interact with on the website.

2. What problems / warnings are there with code?

Ans - a) In order to pass a parameter in a function in the 'onClick' event, the attribute should be returned by an arrow function, like this:

```
onClick={() => onClickHandler(index)}
```

b) The 'index' and 'isSelected' props should be required, along with the 'onClickHandler' and 'text' props, like this:

```
WrappedSingleListItem.propTypes = { index: PropTypes.number.isRequired,  
isSelected: PropTypes.bool.isRequired, onClickHandler:  
PropTypes.func.isRequired, text: PropTypes.string.isRequired, };
```

c) The 'setSelectedIndex' function should come after the 'selectedIndex' state variable when creating the useState hook, like this:

```
const [selectedIndex, setSelectedIndex] = useState();
```

d) The 'isSelected' prop should pass a boolean value by checking if the 'selectedIndex' is equal to the 'index', like this:

```
isSelected={selectedIndex === index}
```

e) Each child in a list should have a unique "key" prop, like this:

```
key={index}
```

f) The PropTypes validation for the 'items' prop should use 'arrayOf' instead of 'array' and 'shape' instead of 'shapeOf', like this:

```
WrappedListComponent.propTypes = { items: PropTypes.arrayOf(PropTypes.shape({  
text: PropTypes.string.isRequired, })), };
```

g) The default props for the 'items' prop should be an empty object array instead of a null value, like this:

```
WrappedListComponent.defaultProps = { items: [{ text: 'No items' }], };
```

3. Please fix, optimize, and/or modify the component as much as you think is necessary.

```
4. import React, { useState, memo } from "react";  
5. import PropTypes from "prop-types";  
6.  
7. // Single List Item  
8. const WrappedSingleListItem = ({ index, isSelected, text,  
  onClickHandler }) => {  
9.   return (  
10.     <li  
11.       style={{ backgroundColor: isSelected ? "green" :  
    "red" }}  
12.       onClick={() => onClickHandler(index)}  
13.     >  
14.       {text}  
15.     </li>  
16.   );  
17. };  
18.  
19. WrappedSingleListItem.propTypes = {
```

```

20.     index: PropTypes.number,
21.     isSelected: PropTypes.bool,
22.     onClickHandler: PropTypes.func.isRequired,
23.     text: PropTypes.string.isRequired
24.   };
25.
26.   const SingleListItem = memo(WrappedSingleListItem);
27.
28.   // List Component
29.   const WrappedListComponent = ({ items }) => {
30.     const [setSelectedIndex, selectedIndex] =
31.       useState(null); // modified
32.     const handleClick = (index) => {
33.       console.log(index);
34.       setSelectedIndex === index ? setSelectedIndex(null) :
35.         selectedIndex(index);
36.       //modified
37.       console.log(setSelectedIndex);
38.     };
39.     return (
40.       <ul style={{ textAlign: "left" }}>
41.         {items &&
42.           items.map((item, index) => (
43.             <SingleListItem
44.               key={index}
45.               text={item.text}
46.               index={index}
47.               isSelected={setSelectedIndex === index}
48.               onClickHandler={() => handleClick(index)}
49.             />
50.           ))}
51.       </ul>
52.     );
53.   };
54.
55.   WrappedListComponent.propTypes = {

```

```
54.     items: PropTypes.arrayOf(
55.       PropTypes.shape({
56.         text: PropTypes.string.isRequired
57.       })
58.     )
59.   };
60.
61.   WrappedListComponent.defaultProps = {
62.     items: [{ text: "Chetan" }] // modified
63.   };
64.
65.   const List = memo(WrappedListComponent);
66.
67.   export default List;
68.
```

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