1.) Explain what the simple List component does.

Ans :- List component takes a props whose name is items which

will be an array of multiple objects with text property.

It defines a state naming selectIndex whose value gets

change on the click of unordered list items.

There is useEffect() method called, so after

rendering the component this method will get called.

handleClick function is defined which changes the value

of selectedIndex state.

It returns(render) an unordered list with as many list

items as there will be objects in the items props.

The unordered list items are the SingleListItem component

to which this List component passes the several props

like onclickhandler, text, index, isselected.

There is also a type checking for the List component's

items props which should be an array with all object

type items in it. and those objects should have a key

with string type property which is required

as well.

There is also a default value set for the items props which is

set as null.

but here it should be an array of objects. as it is already

mentioned above the proper datatype of the items props.

2.) What problems / warnings are there with code?

Ans :- The problems are on these lines :-

line:-14 The function onClickHandle() is directly called in the

onClick event instead of calling there we just have

to pass the function to the onClick event.

line:-34 useState() method returns an array with two items the

first with the initial value passed in the useState()

function and the second with a method to change the

initial value.

The problem here is, in the array destructuring the

values are misplaced so the first value should be

changed with the second value and the second value

should be changed with first value that is

the first value should be 'selectedIndex' and the

second value should be 'setSelectedIndex'.

line:-59 here instead of 'PropTypes.array' it should be

"PropTypes.arrayOf" and instead of 'PropTypes.shapeOf'

it should be "PropTypes.shape"

line:-66 here the defaultProps for items should be an array of

multiple objects. because above it is already mentioned

the correct PropTypes for the items props which is an

array of objects

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

Ans :- open the file OptimizedCode.jsx

fixed, optimized, and/or modified the component as much as I think is necessary.

|  |
| --- |
| import React, { useState, memo } from 'react';  import PropTypes from 'prop-types';  // Single List Item  *const* WrappedSingleListItem = ({         /// removed index props as there is no use of index props in this component  *isSelected*,  *onClickHandler*,  *text*,  }) *=>* {    return (      <li        style={{ backgroundColor: *isSelected* ? 'green' : 'red'}}        onClick={*onClickHandler*}      >        {*text*}      </li>    );  };  WrappedSingleListItem.propTypes = {    index: PropTypes.number,    isSelected: PropTypes.bool,                     /// here the isSelected props is demanding a boolean value that is why there in the list component(line:45) instead of passing the argumnet as index i passed selectedIndex    onClickHandler: PropTypes.func.isRequired,    text: PropTypes.string.isRequired,  };  *const* SingleListItem = memo(WrappedSingleListItem);  // List Component  *const* WrappedListComponent = ({  *items*,  }) *=>* {  *const* [selectedIndex, setSelectedIndex] = useState();    //////// removed the useEffect() method as there was no need for that  *const* handleClick = *index* *=>* {      setSelectedIndex(!*index*);               //// reversed the boolean value    };    return (      <ul style={{ textAlign: 'left' }}>        {*items*.map((*item*, *index*) *=>* (          <*SingleListItem*            onClickHandler={() *=>* handleClick(selectedIndex)}            text={*item*.text}            key={*index*}         //// removed the index props as there is no use of index props in the SingleListItem component instead passed key props which is necessary to Each child in a list should have a unique "key" prop.            isSelected={selectedIndex}          />        ))}      </ul>    )  };  WrappedListComponent.propTypes = {    items: PropTypes.arrayOf(PropTypes.shape({      //// here it should be 'arrayOf'  and shape()      text: PropTypes.string.isRequired,    })),  };  WrappedListComponent.defaultProps = {    items: [{text:'text1'}, {text:'text2'}],    ///// instead of null , passed an array of two objects with text properties.  };  *const* List = memo(WrappedListComponent);  export default List; |