Q1) Explain what the simple **List** component does.  
Sol=Lists can be created in a similar way as we create lists in JavaScript.The list component contains list items.  
List is used to store multiple items of the same and different datatype under a variable like array .Here single list item is stored inside WrappedSingleListItem. React.memo(WrappedListComponent) returns a new memoized component List. List render is memoized but the outputs of List is same content as the original WrappedListComponent component.items array is used to store these list items and then each item is looped through using **map()** function and displayed. The background color of text changes according to the **isSelected state**, which is dependent on **selectedIndex.**  
const [selectedIndex, setSelectedIndex] = useState(true); //**Green color**  
const [selectedIndex, setSelectedIndex] = useState(); //**Red color**

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

* Defining a default prop as null is not recommended. Either use Undefined or an array of values.

WrappedListComponent.defaultProps = {

items: null,

};

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

import React, { useState, useEffect, memo } from 'react';  
import PropTypes from 'prop-types';

// Single List Item  
const WrappedSingleListItem = ({ index, isSelected, onClickHandler, text}) => {  
return (  
<li style={{ backgroundColor: isSelected ? 'green' : 'red'}} onClick={onClickHandler(index)}>  
{text}  
  
);  
};

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

const SingleListItem = memo(WrappedSingleListItem);

// List Component  
const WrappedListComponent = ({ items}) => {  
const [selectedIndex, setSelectedIndex] = useState(false);

useEffect(() => {  
setSelectedIndex();  
}, [items]);

const handleClick = (index) => {  
setSelectedIndex(true);  
};

return (  
<ul style={{ textAlign: 'left' }}>  
{items.map((item, index) => (  
<SingleListItem  
key={index}  
onClickHandler={() => handleClick(index)}  
text={item.text}  
index={index}  
isSelected={selectedIndex}  
/>  
))}  
  
);  
};

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

WrappedListComponent.defaultProps = {  
items: [  
{index:1,text:"Tejodeep"},  
{index:2,text:"Sunil"}  
]  
};

const List = memo(WrappedListComponent);

export default List;