WORKING WITH LISTS AND CONDITIONALS

Working with lists

```
const SimpleListComponent = () => {
   const nums = [1,2,3,4,5]
   const updatedNums = nums.map((num)=>{
    return <li>{num*num}</li>;
  });

   const items =[{name:'Item-1'}, {name:'Item-2'}]
   const updatedItems = items.map(item => (
      <p>{item.name}</p>
    ))

   const students = [{name:"Anita",rollno:101},
                     {name:"Sunita",rollno:102},
                     {name:"Kavita",rollno:103}]
   const updatedStudents = students.map(student => (
      <tr>
         <td>Name {student.name} </td>
         <td>Rollno {student.rollno} </td>
       </tr>
   ))
return(
    <div>
        <h2> Numbers List</h2> {updatedNums}
        <h2> Items List</h2>   {updatedItems}
        <h2> Students List</h2>
        <table border="1">{updatedStudents}</table>
    </div>
);}
export default SimpleListComponent
```

Numbers List

- 1
- 4
- 9
- 16
- 25

Items List

Item-1

Item-2

Students List

Name Anita	Rollno 101
Name Sunita	Rollno 102
Name Kavita	Rollno 103

Working with lists in child component

```
import SimpleListChildComponent from "./SimpleListChildComponent";

const SimpleListComponent = () => {
   const nums = [1,2,3,4,5]

   const items =[{name:'Item-1'}, {name:'Item-2'}]

   const students = [{name:"Anita",rollno:101},
                     {name:"Sunita",rollno:102},
                     {name:"Kavita",rollno:103}]
return(
    <div>
        <SimpleListChildComponent
            nums={nums}
            items={items}
            students={students} />
    </div>
);
}
export default SimpleListComponent
```

```
const SimpleListChildComponent = (props) => {

   const nums = props.nums;
   const updatedNums = nums.map(...);
   const items = props.items
   const updatedItems = items.map(...)

   const students = props.students;
   const updatedStudents = students.map(...)

    return(...);
}
export default SimpleListChildComponent;
```

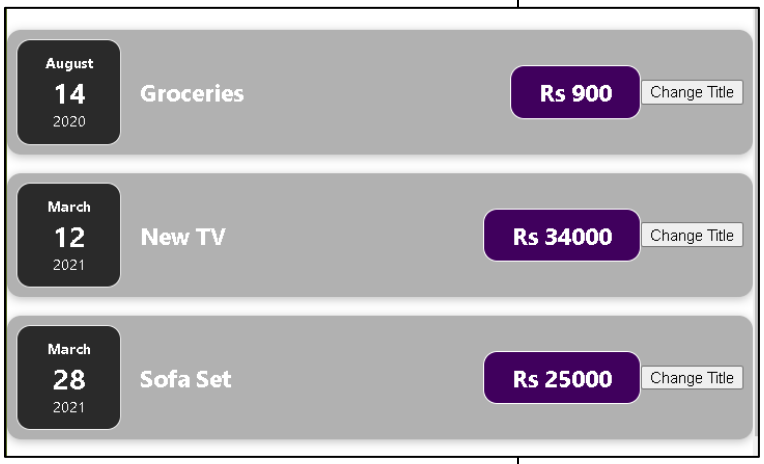
Working with the expenses list

```
  const expenses = [
    { title: 'Groceries’, amount: 900, date: new Date(2020, 7, 14)},
    { title: 'New TV', amount: 34000, date: new Date(2021, 2, 12) },
    { title: 'SofaSet', amount: 25000, date: new Date(2021, 2, 28)}
  ];
  return (
    <div className="App">
      <h2>Welcome to React!</h2>
      <ExpenseItem
           expDate={expenses[0].date}
           expTitle={expenses[0].title}
           expAmount={expenses[0].amount}
      />
      <ExpenseItem
           expDate={expenses[1].date}
           expTitle={expenses[1].title}
           expAmount={expenses[1].amount}
      />
      <ExpenseItem
           expDate={expenses[2].date}
           expTitle={expenses[2].title}
           expAmount={expenses[2].amount}
      />
    </div>
  );
}
```

Working with the expenses list

```
function App() {
  const expenses = [
    { title: 'Groceries', amount: 900, date: new Date(2020, 7, 14)},
    { title: 'New TV', amount: 34000, date: new Date(2021, 2, 12) },
    { title: 'Sofa Set', amount: 25000, date: new Date(2021, 2, 28)}
  ];
  return (
    <div className="App">
      <h2>Welcome to React!</h2>

      {expenses.map(expense => {
         return <ExpenseItem
                 expDate={expense.date}
                 expTitle={expense.title}
                 expAmount={expense.amount}
                />
         })}
      {/* <ExpenseItem
          expDate={expenses[0].date}
          expTitle={expenses[0].title}
          expAmount={expenses[0].amount}
      />  ... */}
    </div>
  );
}
export default App;
```

```
{expenses.map(expense =>
          (<ExpenseItem
              expDate={expense.date}
              expTitle={expense.title}
              expAmount={expense.amount}
           />))
}
```

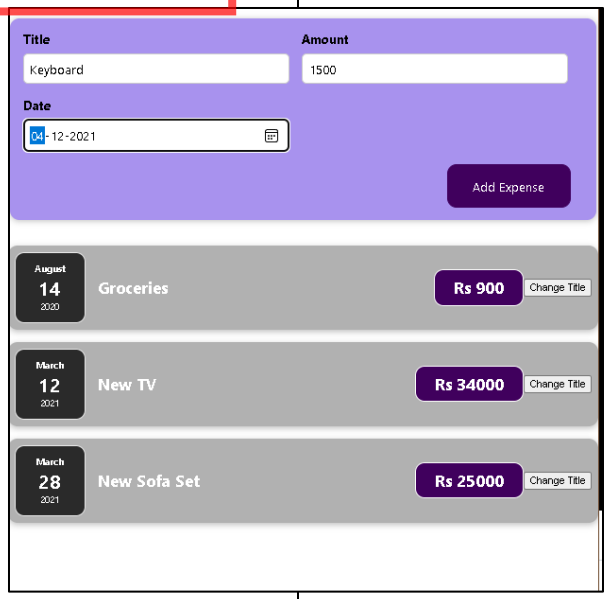


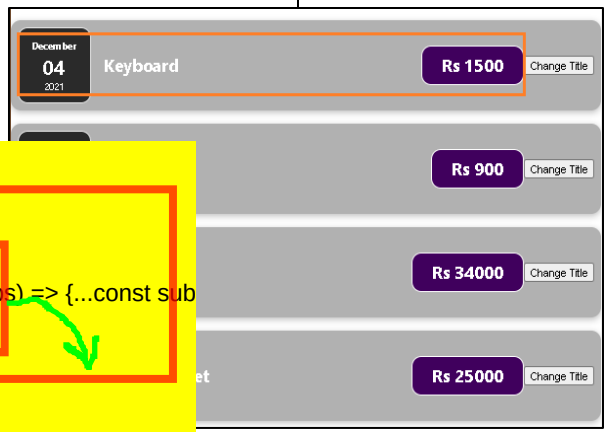
Using stateful lists

```
const DUMMY_EXP = [
  { title: 'Groceries', amount: 900, date: new Date(2020, 7, 14)},
  { title: 'New TV', amount: 34000, date: new Date(2021, 2, 12) },
  { title: 'New Sofa Set', amount: 25000, date: new Date(2021, 2, 28)}
];
function App() {
  const [expenses, setExpenses] = useState(DUMMY_EXP)

  const addExpenseHandler = expense => {
    setExpenses(prevArr => {return [expense, ...prevArr]})
  }
  return (
    <div className="App">
      <h2>Welcome to React!</h2>
      <NewExpense onAddExpense={addExpenseHandler} />

       {expenses.map(expense => (<ExpenseItem
                  expDate={expense.date}
                  expTitle={expense.title}
                  expAmount={expense.amount}
                 />))
       }
    </div>
  );
}
export default App;
```

const NewExpense = (props) => {const saveE

const ExpenseForm = (props) => {...const sub





Lists and keys

```
Warning: Each child in a list should have a unique "key" prop.        index.js:1

Check the render method of `App`. See https://reactjs.org/link/warning-keys for more
information.
    at ExpenseItem (http://localhost:3000/static/js/main.chunk.js:685:19)
    at App (http://localhost:3000/static/js/main.chunk.js:184:89)
```

```
const DUMMY_EXP = [
  { id:101, title: 'Groceries', amount: 900, date: new Date(2020, 7, 14)},
  { id:102,title: 'New TV', amount: 34000, date: new Date(2021, 2, 12) },
  { id:103,title: 'New Sofa Set', amount: 25000, date: new Date(2021, 2, 28)}
];

function App() {

  const [expenses, setExpenses] = useState(DUMMY_EXP)
  ...
  return (
    <div className="App">
      ...
       {expenses.map(expense => (
                <ExpenseItem
                  key={expense.id}
                  expDate={expense.date}
                  expTitle={expense.title}
                  expAmount={expense.amount}
                />))
       }
...
```

key is predefined

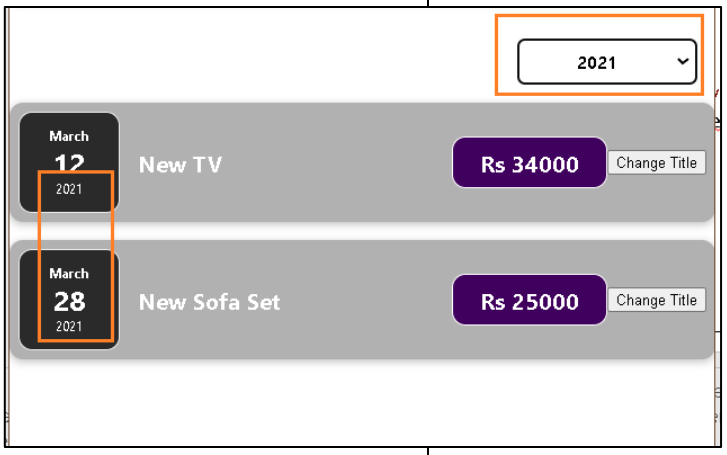
Lists and keys

- When creating a list in JSX, React may show you an error and ask for a key.
  - Keys are unique identifiers that must be attached to the top-level element inside a map.
  - Keys are used by React to know how to update a list whether adding, updating, or deleting items.
  - This is part of how React is so fast with large lists.
  - Keys are a way to help React know how to efficiently update a list.
  - We can add a key using the key prop like so:

```
<div>
  {people.map(person => (
    <p key={person.name}>{person.name}</p>
  ))}
</div>
```

Implementing filters

```
function App() {
  const [expenses, setExpenses] = useState(DUMMY_EXP)
  const [filteredYear, setFilteredYear] = useState(2020);
                        2021

  const filteredExpensesArr = expenses.filter(expense =>{
    return expense.date.getFullYear().toString() === filteredYear;
  })

...
  const selectYearHandler = filteredValue => {
    setFilteredYear(filteredValue)
  }

  return (
    <div className="App">
      <h2>Welcome to React!</h2>
      <NewExpense onAddExpense={addExpenseHandler} />
      <ExpensesFilter onSelectYear={selectYearHandler}/>
       {filteredExpensesArr.map(expense => (
               <ExpenseItem
                 key={expense.id}
                 expDate={expense.date}
                 expTitle={expense.title}
                 expAmount={expense.amount}
                />))
       }
```



Rendering content conditionally

- Conditional rendering means to render a specific HTML element or React component depending on a prop or state value.
  - In a conditional render, a React component decides based on one or several conditions which DOM elements it will return.
  - For instance, based on some logic it can either return a list of items or a text that says "Sorry, the list is empty".

```
if(condition_is_met) {
    renderSectionOfUI();
  }
```

Rendering content conditionally : example

```
/*const users = [
    { id: '1', firstName: 'Shrilata', lastName: 'T' },
    { id: '2', firstName: 'Anita', lastName: 'Patil' },
  ];*/
  const users = []

  function ListUsers() {
    return (
      <div>
        <List list={users} />
      </div>
    );
  }

 function List({ list }) {
    if (!list) {
      return null;
    }
    return (
      <ul>
        {list.map(item => (
          <Item key={item.id} item={item} />
        ))}
      </ul>
    );
  }
```

```
if (!list.length) {
        return <p>Sorry, the list is empty.</p>;
    }
```

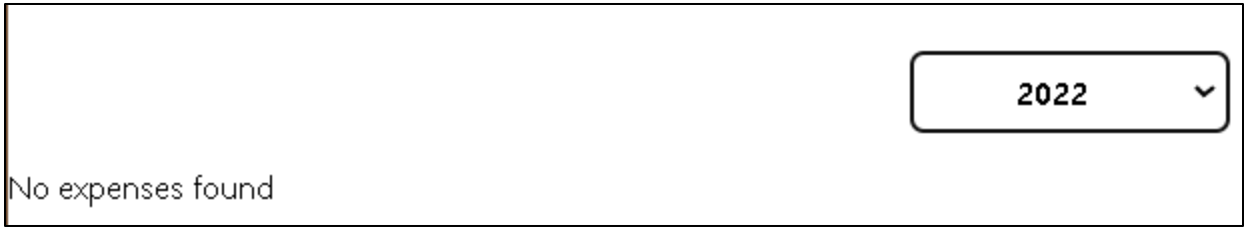
```
function Item({ item }) {
    return (
      <li>
        {item.firstName} {item.lastName}
      </li>
    );
  }
  export default ListUsers;
```

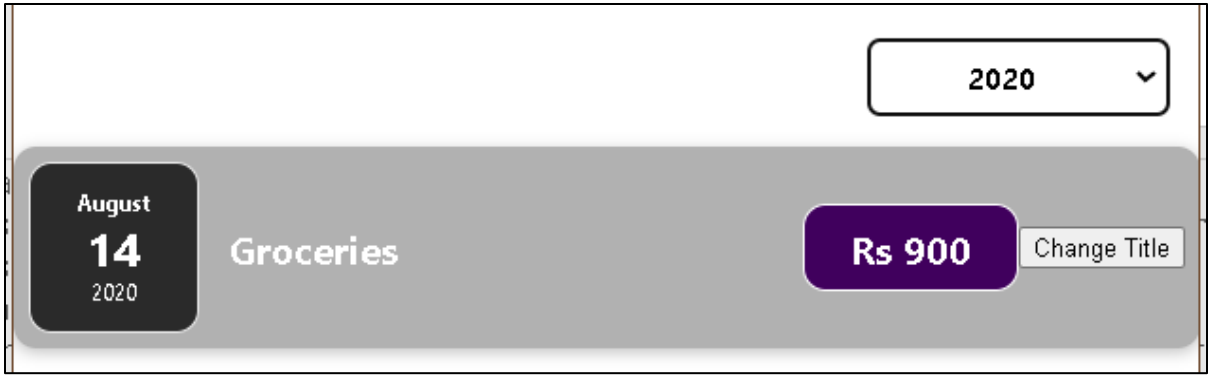
Hello Conditional Rendering

- Shrilata T
- Anita Patil

Rendering content conditionally : Expense tracker example

```
{filteredExpensesArr.length ==0 ? <p>No expenses found</p> :
          filteredExpensesArr.map(expense => (
               <ExpenseItem
                 key={expense.id}
                 expDate={expense.date}
                 expTitle={expense.title}
                 expAmount={expense.amount}
                />))
}
```





Rendering content conditionally : one more example

```
const NewExpense = (props) => {
    const [showForm, setShowForm] = useState(false)

    const showFormHandler = () => {
        setShowForm(true)
    }
    const saveExpenseDataHandler = (inputExpenseData) => {...}
    return(
        <div  className="new-expense">
            {!showForm && <button onClick={showFormHandler}>Add New Expense </button>}
            {showForm && <ExpenseForm onCancel={stopShowForm}
                                      onSaveExpenseData={saveExpenseDataHandler}/>}
        </div>
    );
}
export default  NewExpense;
```

const stopShowForm = () => {s

```
//ExpenseForm
<div className="new-expense__actions">
   <button type="button"
        onClick={props.onCancel}>Cancel</button>
   <button type="submit">Add Expense</button>
</div>
```