9.React-HOL

List the features of ES6:

- Arrow functions
- let and const for variable declarations
- Classes and inheritance
- Template literals
- Default parameters
- Destructuring assignment
- Rest and Spread operators
- Promises
- Modules (import/export)
- Map and Set objects

Explain JavaScript let:

- let allows you to declare block-scoped variables.
- Unlike var, it does not allow redeclaration in the same scope.

Identify the differences between var and let:

Feature	**var**	**let**
Scope	Function-scoped	Block-scoped
Redeclaration	Allowed	Not allowed
Hoisting	Yes (initialized as undefined)	Yes (not initialized)

Explain JavaScript const:

- Used to declare constants (block-scoped).
- The value cannot be reassigned but objects/arrays can be mutated.

Explain ES6 class fundamentals:

- class keyword is used to define object blueprints.
- Contains constructors and methods.

```
class Car {
 constructor(brand) {
   this.brand = brand;
 }
 display() {
   return `Brand is ${this.brand}`;
 }
}
```

Explain ES6 class inheritance:

- Uses extends and super() to inherit parent class properties/methods.

```
lass Car {
  constructor(brand) {
    this.brand = brand;
  }
}
class Model extends Car {
  constructor(brand, model) {
    super(brand);
    this.model = model;
  }
}
```

Define ES6 arrow functions:

- Shorter syntax for functions.
- Does **not** bind this.

```
const add = (a, b) => a + b;
```

Identify set() and map():

- Set: Collection of **unique** values.
- Map: Key-value pairs with keys of any type.

CODE: ListofPlayers.js

```
import React from 'react';
const ListofPlayers = () => {
  const players = [
    { name: "Mr. Jack", score: 50 },
    { name: "Mr. Michael", score: 70 },
    { name: "Mr. John", score: 40 },
    { name: "Mr. Ann", score: 61 },
    { name: "Mr. Elisabeth", score: 61 },
    { name: "Mr. Sachin", score: 95 },
    { name: "Mr. Dhoni", score: 100 },
    { name: "Mr. Virat", score: 84 },
    { name: "Mr. Jadeja", score: 64 },
    { name: "Mr. Raina", score: 75 },
    { name: "Mr. Rohit", score: 80 },
  ];

  const filteredPlayers = players.filter(p => p.score < 70); // using arrow function

  return (
    <div>
      <h2>List of Players</h2>
      <ul>
        {players.map((p, index) => (
          <li key={index}>{p.name} {p.score}</li>
        ))}
      </ul>

      <hr />

      <h2>List of Players having Scores Less than 70</h2>
      <ul>
        {filteredPlayers.map((p, index) => (
          <li key={index}>{p.name} {p.score}</li>
        ))}
      </ul>
    </div>
  );
};

export default ListofPlayers;
```

IndianPlayers.js

```
import React from 'react';

const IndianPlayers = () => {
```

```
const oddPlayers = ["Sachin1", "Virat3", "Yuvaraj5"];
const evenPlayers = ["Dhoni2", "Rohit4", "Raina6"];

const T20players = [
  "Mr. First Player",
  "Mr. Second Player",
  "Mr. Third Player"
];
const RanjiPlayers = [
  "Mr. Fourth Player",
  "Mr. Fifth Player",
  "Mr. Sixth Player"
];
const merged = [...T20players, ...RanjiPlayers];

return (
  <div>
    <h2>Odd Players</h2>
    <ul>
      <li>First : {oddPlayers[0]}</li>
      <li>Third : {oddPlayers[1]}</li>
      <li>Fifth : {oddPlayers[2]}</li>
    </ul>

    <h2>Even Players</h2>
    <ul>
      <li>Second : {evenPlayers[0]}</li>
      <li>Fourth : {evenPlayers[1]}</li>
      <li>Sixth : {evenPlayers[2]}</li>
    </ul>

    <h2>List of Indian Players Merged:</h2>
    <ul>
      {merged.map((player, index) => (
          <li key={index}>{player}</li>
        ))}
      </ul>
    </div>
  );
};

export default IndianPlayers;
```

app.js

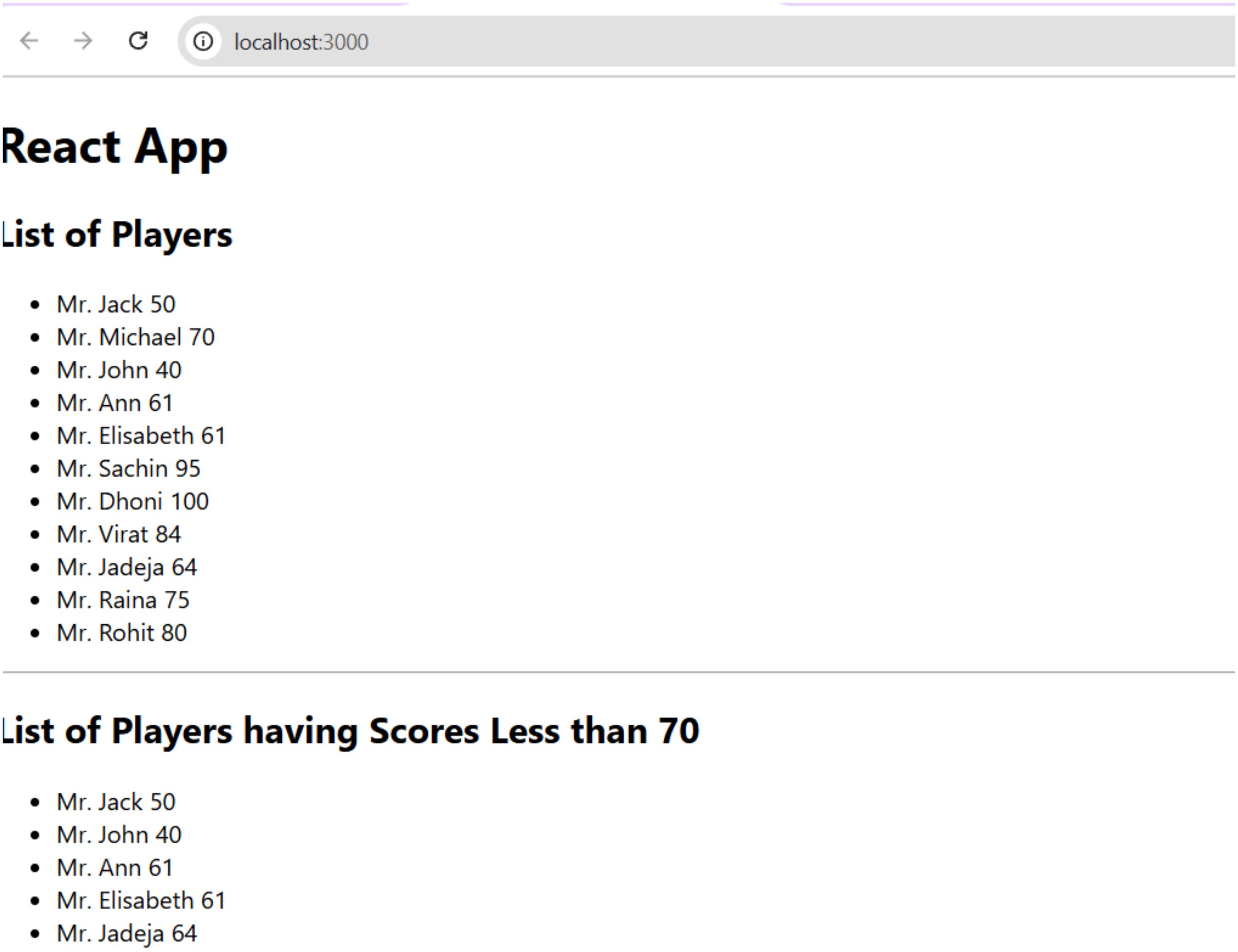
```
import React from 'react';
import ListofPlayers from './ListofPlayers';
import IndianPlayers from './IndianPlayers';

function App() {
  const flag = false; // set to false to view IndianPlayers

  return (
    <div className="App">
      <h1>React App</h1>
      {flag ? <ListofPlayers /> : <IndianPlayers />}
    </div>
  );
}

export default App;
```

OUTPUT



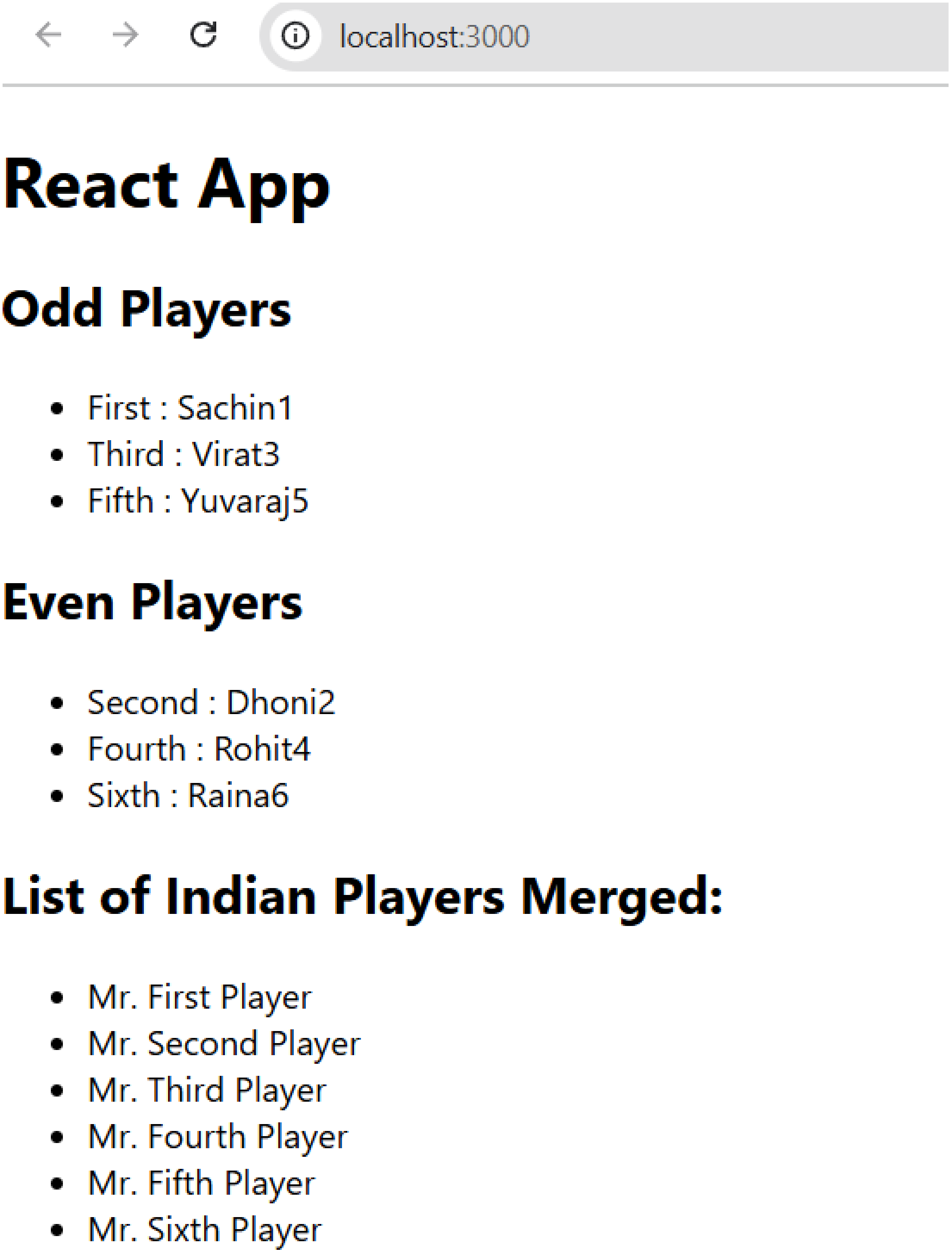
React App

List of Players

- Mr. Jack 50
- Mr. Michael 70
- Mr. John 40
- Mr. Ann 61
- Mr. Elisabeth 61
- Mr. Sachin 95
- Mr. Dhoni 100
- Mr. Virat 84
- Mr. Jadeja 64
- Mr. Raina 75
- Mr. Rohit 80

List of Players having Scores Less than 70

- Mr. Jack 50
- Mr. John 40
- Mr. Ann 61
- Mr. Elisabeth 61
- Mr. Jadeja 64



React App

Odd Players

- First : Sachin1
- Third : Virat3
- Fifth : Yuvaraj5

Even Players

- Second : Dhoni2
- Fourth : Rohit4
- Sixth : Raina6

List of Indian Players Merged:

- Mr. First Player
- Mr. Second Player
- Mr. Third Player
- Mr. Fourth Player
- Mr. Fifth Player
- Mr. Sixth Player