Hands-on 9

Objectives

- List the features of ES6
- Explain JavaScript let
- Identify the differences between var and let
- Explain JavaScript const
- Explain ES6 class fundamentals
- Explain ES6 class inheritance
- Define ES6 arrow functions
- Identify set(), map()

In this hands-on lab, you will learn how to:

- Use map() method of ES6
- Apply arrow functions of ES6
- Implement Destructuring features of ES6

Prerequisites

The following is required to complete this hands-on lab:

- Node.js
- NPM
- Visual Studio Code

Notes

Estimated time to complete this lab: **60 minutes.**

Create a React Application named "cricketapp" with the following components:

1. ListofPlayers
   - Declare an array with 11 players and store details of their names and scores using the map feature of ES6

```
return(
    players.map((item)=>
    {
    return(
       <div>
          <li>Mr. {item.name}<span> {item.score} </span></li>
       </div>

    )})
    )
```

- Filter the players with scores below 70 using arrow functions of ES6.

```
return(
    players.map((item)=>
    {
      if(item.score<=70)
      {
          players70.push(item);
      }
    }),
```

2. IndianPlayers

   a. Display the Odd Team Player and Even Team players using the Destructuring features of ES6

```
export function OddPlayers([first,, third,,fifth]) {
    return(
    <div>
      <li> First :  {first}  </li>
      <li> Third :  {third} </li>
      <li> Fifth : {fifth}</li>
    </div>)}
```
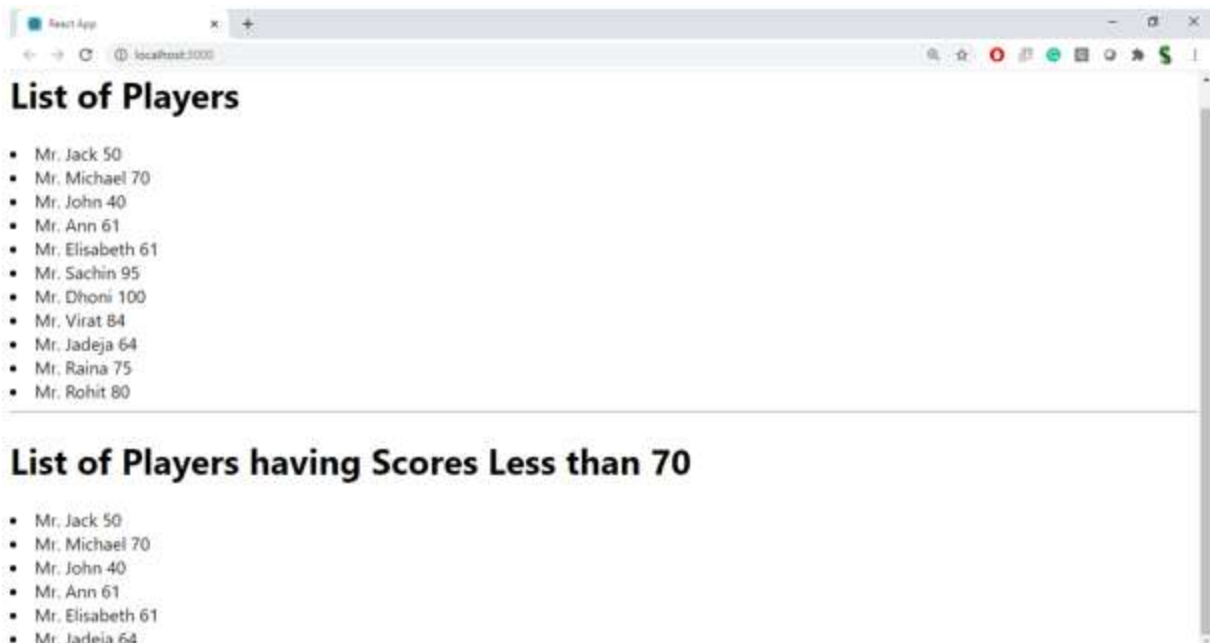
   b. Declare two arrays T20players and RanjiTrophy players and merge the two arrays and display them using the Merge feature of ES6

```
const T20Players=['First Player','Second Player','Third Player'];
  const RanjiTrophyPlayers=['Fourth Player','Fifth Player','Sixth Player'];
  export const IndianPlayers=[...T20Players, ...RanjiTrophyPlayers]
```
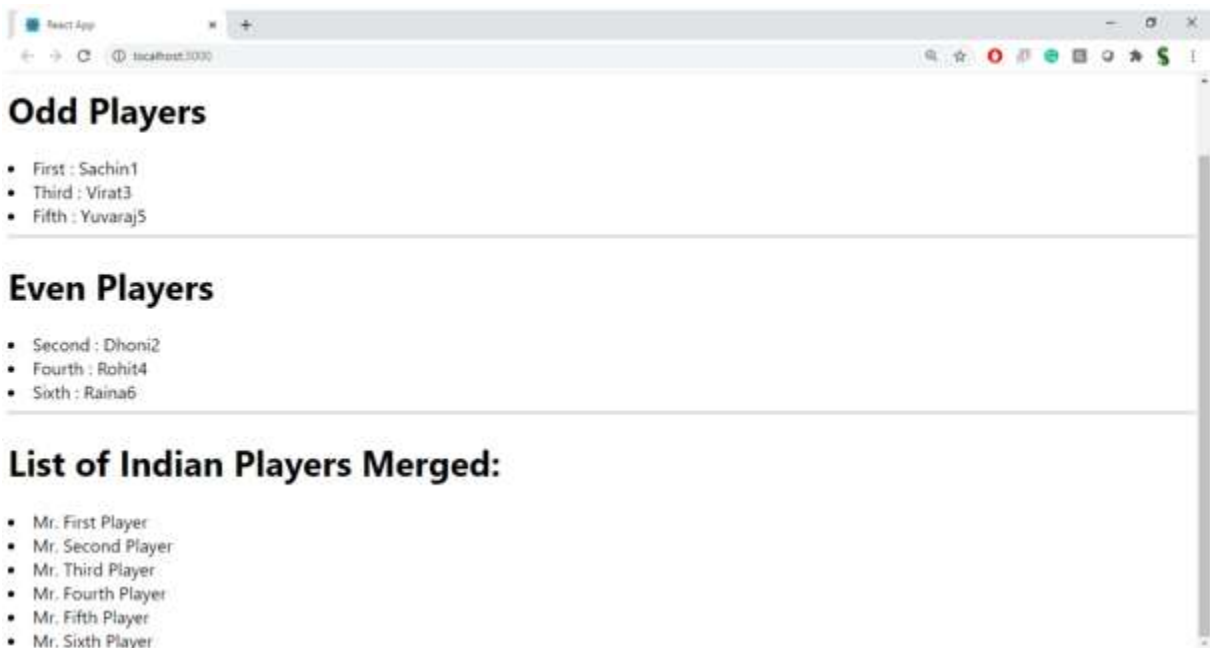
Display these two components in the same home page using a simple if else in the flag variable.

Output:

When Flag=true

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. Michael 70
- Mr. John 40
- Mr. Ann 61
- Mr. Elisabeth 61
- Mr. Jadeja 64

When Flag=false

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

Hint:

```
var flag=true;
    if(flag===true)
    {
    return(
        <div>
            <h1> List of Players</h1>
            <ListofPlayers players={players}/>
            <hr/>
            <h1> List of Players having Scores Less than 70 </h1>
            <Scorebelow70 players={players}/>
        </div>
    )
    }
    else{
        return(
            <div>
            <div>
                <h1> Indian Team </h1>
                <h1> Odd Players </h1>
                {OddPlayers(IndianTeam)}
                <hr/>
                <h1> Even Players</h1>
                {EvenPlayers(IndianTeam)}
            </div>
            <hr/>
            <div>
                <h1> List of Indian Players Merged:</h1>
                <ListofIndianPlayers IndianPlayers={IndianPlayers}/>

            </div>
            </div>
        )
    }
```
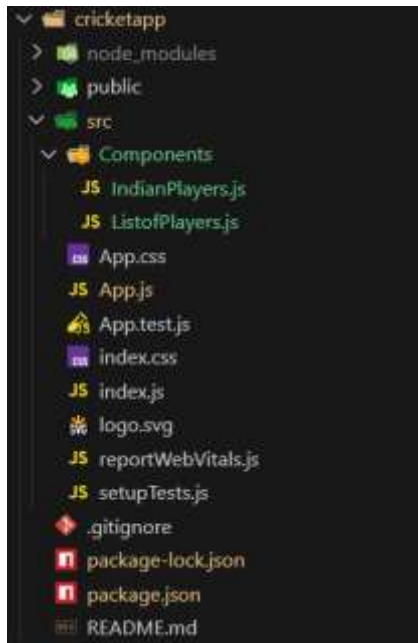
Implementation

```
cricketapp
  > node_modules
  > public
  v src
    v Components
        JS IndianPlayers.js
        JS ListofPlayers.js
      App.css
      JS App.js
      App.test.js
      index.css
      JS index.js
      logo.svg
      JS reportWebVitals.js
      JS setupTests.js
      .gitignore
      package-lock.json
      package.json
      README.md
```

IndianPlayers.js

```
import React from 'react';

const IndianPlayers = () => {
  const oddTeam = ["Virat", "Rahul", "Pant", "Jadeja", "Ashwin"];
  const evenTeam = ["Rohit", "Shreyas", "Bumrah", "Hardik", "Gill"];

  const [odd1, odd2, ...oddRest] = oddTeam;
  const [even1, even2, ...evenRest] = evenTeam;

  const T20players = ["Surya", "Hardik", "Pant"];
  const RanjiTrophyPlayers = ["Pujara", "Rahane", "Saha"];
  const mergedPlayers = [...T20players, ...RanjiTrophyPlayers];

  return (
   <div>
     <h2>Odd Team Players (Destructured)</h2>
     <ul>
      <li>{odd1}</li>
      <li>{odd2}</li>
      {oddRest.map((player, index) => <li key={index}>{player}</li>)}
     </ul>

     <h2>Even Team Players (Destructured)</h2>
     <ul>
      <li>{even1}</li>
      <li>{even2}</li>
```

```jsx
      {evenRest.map((player, index) => <li key={index}>{player}</li>)}
    </ul>

    <h2>Merged Players (T20 + Ranji Trophy)</h2>
    <ul>
      {mergedPlayers.map((player, index) => (
        <li key={index}>{player}</li>
      ))}
    </ul>
  </div>
 );
};

export default IndianPlayers;
```

ListofPlayers.js

```jsx
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 lowScorers = players.filter(player => player.score < 70);

  return (
    <div>
      <h2>All Players</h2>
      <ul>
        {players.map((player, index) => (
          <li key={index}>{player.name} - {player.score}</li>
        ))}
      </ul>

      <h3>Players with score below 70</h3>
      <ul>
```

```
    {lowScorers.map((player, index) => (
      <li key={index}>{player.name} - {player.score}</li>
    ))}
    </ul>
  </div>
 );
};

export default ListofPlayers;
```

App.js

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

function App() {
 const flag = true; // Change to false to show IndianPlayers

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

export default App;
```

Output:

Cricket App

Odd Team Players (Destructured)

- Virat
- Rahul
- Pant
- Jadeja
- Ashwin

Even Team Players (Destructured)

- Rohit
- Shreyas
- Bumrah
- Hardik
- Gill

Merged Players (T20 + Ranji Trophy)

- Surya
- Hardik
- Pant
- Pujara
- Rahane
- Saha