**React HOL-6**

**Explain in the need and benefits of React Router**

React Router is needed to add navigation between pages in a single-page React app.  
**Benefits:**

* Allows switching views without reloading the page
* Keeps URLs clean and meaningful
* Helps build dynamic and fast web apps

**Identify the components in React Router**

Common React Router components:

* BrowserRouter: Wraps the app to enable routing
* Routes: Holds all the route definitions
* Route: Maps a URL to a component
* Link: Creates clickable links without page reload
* useParams: Gets values from the URL

**List the types of Router Components**

* BrowserRouter – For modern web apps using normal URLs
* HashRouter – Uses # in URL, works without server setup
* MemoryRouter – Stores routes in memory (used in testing)
* StaticRouter – Used in server-side rendering (SSR)

**Parameter passing via url**

You can pass values like ID in the URL.  
**Example:**

<Route path="/trainer/:id" element={<TrainerDetails />} />

To get the ID:

const { id } = useParams();

This helps show data based on the URL (like trainer details).

**Trainer.js**

export class Trainer {

constructor(trainerId, name, email, phone, technology, skills) {

this.trainerId = trainerId;

this.name = name;

this.email = email;

this.phone = phone;

this.technology = technology;

this.skills = skills;

}

}

**TrainersMock.js**

import { Trainer } from './Trainer';

export const trainers = [

new Trainer(1, "John Doe", "john@example.com", "1234567890", "React", ["JSX", "Hooks", "Routing"]),

new Trainer(2, "Jane Smith", "jane@example.com", "0987654321", "Angular", ["Components", "Services"]),

new Trainer(3, "Mark Taylor", "mark@example.com", "1122334455", "Vue", ["Vuex", "Routing"])

];

**>npm install react-router-dom**

**TrainerList.js**

import React from 'react';

import { Link } from 'react-router-dom';

function TrainerList({ trainers }) {

return (

<div>

<h2>Trainers List</h2>

<ul>

{trainers.map((trainer) => (

<li key={trainer.trainerId}>

<Link to={`/trainer/${trainer.trainerId}`}>{trainer.name}</Link>

</li>

))}

</ul>

</div>

);

}

export default TrainerList;

**TrainerDetails.js**

import React from 'react';

import { useParams } from 'react-router-dom';

import { trainers } from './TrainersMock';

function TrainerDetails() {

const { id } = useParams();

const trainer = trainers.find((t) => t.trainerId.toString() === id);

if (!trainer) return <div>Trainer not found</div>;

return (

<div>

<h2>Trainers Details</h2>

<p><strong>{trainer.name} ({trainer.technology})</strong></p>

<p>{trainer.email}</p>

<p>{trainer.phone}</p>

<ul>

{trainer.skills.map((skill, index) => (

<li key={index}>{skill}</li>

))}

</ul>

</div>

);

}

export default TrainerDetails;

**Home.js**

import React from 'react';

function Home() {

return (

<div>

<h2>Welcome to My Academy Trainers App</h2>

</div>

);

}

export default Home;

**App.js**

import React from 'react';

import { BrowserRouter as Router, Routes, Route, Link } from 'react-router-dom';

import Home from './Home';

import TrainerList from './TrainerList';

import TrainerDetails from './TrainerDetails';

import { trainers } from './TrainersMock';

function App() {

return (

<Router>

<div>

<h1>My Academy Trainers App</h1>

<nav>

<Link to="/">Home</Link> | <Link to="/trainers">Trainers</Link>

</nav>

<Routes>

<Route path="/" element={<Home />} />

<Route path="/trainers" element={<TrainerList trainers={trainers} />} />

<Route path="/trainer/:id" element={<TrainerDetails />} />

</Routes>

</div>

</Router>

);

}

export default App;

**Output**

**A screenshot of a computer

AI-generated content may be incorrect.**

**A screenshot of a computer

AI-generated content may be incorrect.**

**A screenshot of a computer

AI-generated content may be incorrect.**

**A screenshot of a computer

AI-generated content may be incorrect.**