Introducing NextJS and TailwindCSS

Objectives

- Describe about Next.JS
  - What is Next.JS?
  - Installation, Config and Run Next.JS
- Describe about tailwind CSS
  - What is tailwind CSS?
  - Installation, Config and Run tailwind CSS

What is Next.js?

- Open-source web development framework, which enables web applications with server-side rendering and generating static websites.

- Next.js was released by Vercel (formerly known as Zeit) in 2016.

- In 2019, Google began contributing to the project.

- Next.js is often credited with completing React by offering the following features:
  - Server-Side Rendering
  - Static Site Generation
  - Image Optimization
  - Built-in Routing

History and Features of Next.js

- History of Next.js: https://en.wikipedia.org/wiki/Next.js

- Features of Next.js:

  - One of the main advantages of Next.js is its ability to handle server-side rendering out of the box, which perfectly supplements React.

  - This means that your application can be rendered on the server before being sent to the client, which can result in faster initial page load times and better search engine optimization (SEO).

Installation Next.js

- Automatic Installation or Manual Installation
    - We recommend starting a new Next.js app using create-next-app:
    npx **create-next-app@13.5.1**

```
1   What is your project named? my-app          ←——— Rename Project
2   Would you like to use TypeScript? No / Yes
3   Would you like to use ESLint? No / Yes
4   Would you like to use Tailwind CSS? No / Yes
5   Would you like to use `src/` directory? No / Yes
6   Would you like to use App Router? (recommended) No / Yes
7   Would you like to customize the default import alias? No / Yes
8   What import alias would you like configured? @/*
```

https://nextjs.org/docs/getting-started/installation

package.json

- These scripts refer to the different stages of developing an application:
  - **dev**: runs *next dev* to start Next.js in development mode.
  - **build**: runs *next build* to build the application for production usage.
  - **start**: runs *next start* to start a Next.js production server.
  - **lint**: runs *next lint* to set up Next.js' built-in ESLint configuration.

```
 5    "scripts": {
 6        "dev": "next dev",
 7        "build": "next build",
 8        "start": "next start",
 9        "lint": "next lint"
10    },
```
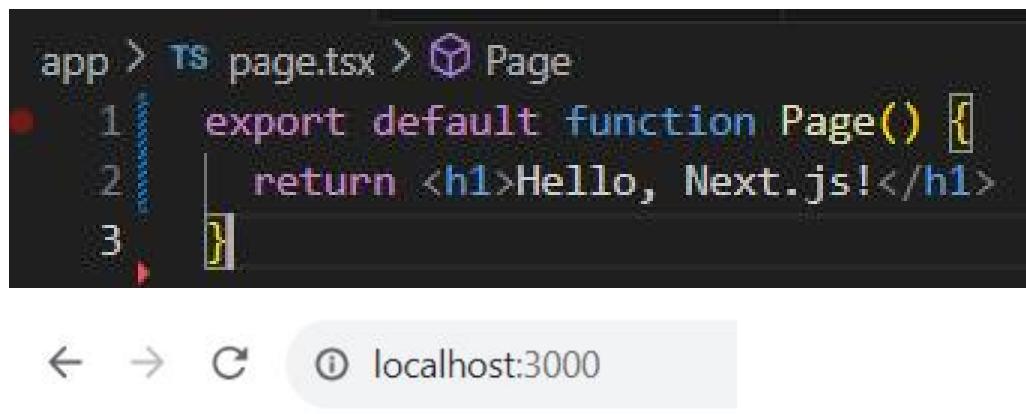
Creating directories

- Next.js uses file-system routing, which means the routes in your application are determined by how you structure your files.

Creating directories
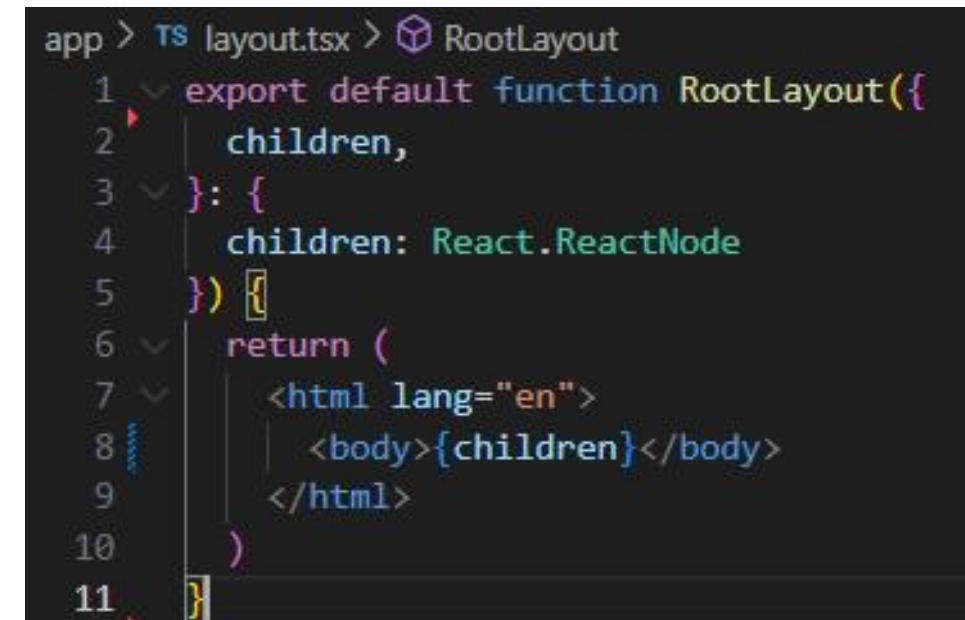
- For new applications, using the App Router. This router allows you to use React's latest features and is an evolution of the Pages Router based on community feedback.

- **Create an app**/ folder, then add a **layout.tsx** and **page.tsx file**. These will be rendered when the user visits the root of your application (/).

```tsx
app > TS page.tsx > Page
1  export default function Page() {
2      return <h1>Hello, Next.js!</h1>
3  }
```

← → C ⓘ localhost:3000

Hello, Next.js!

```tsx
app > TS layout.tsx > RootLayout
1  export default function RootLayout({
2      children,
3  }: {
4      children: React.ReactNode
5  }) {
6      return (
7          <html lang="en">
8              <body>{children}</body>
9          </html>
10     )
11 }
```

Run the Development Server

- Run **npm run dev** to start the development server.

- Visit http://localhost:3000 to view your application.

- Edit app/layout.tsx (or pages/index.tsx) file and save it to see the updated result in your browser.

Tailwind CSS
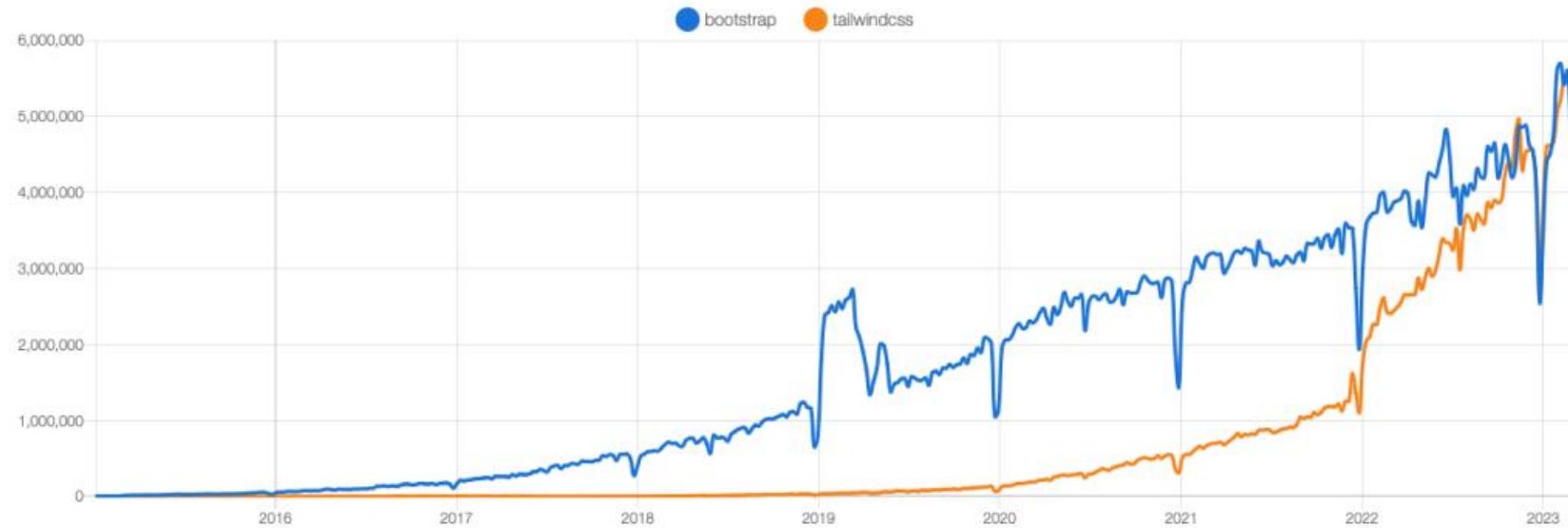
What is Tailwind CSS?

- Open-source CSS framework

- Includes a huge list of utility CSS classes that can be used to style each element by mixing and matching.

- These classes may be about colors, padding, font sizes, etc.

- Compared with Bootstrap, Tailwind provides you with the freedom to create custom designs and components easily

https://tailwindui.com/documentation

Comparison between Bootstrap and Tailwind CSS

NPM Trends: Bootstrap vs. Tailwind CSS   https://npmtrends.com/bootstrap-vs-tailwindcss

History of Tailwind CSS

- Tailwind CSS was created by Adam Wathan and Steve Schoger in 2017.

- Wathan, who was a fan of Bootstrap, began adding utility classes such as paddings and flexbox containers.

- As more people requested the **utility classes**, Wathan and Schoger extracted them into a library and eventually open-sourced them.

How To Use Tailwind CSS With React

- Install Tailwind CSS:
  - npm install -D tailwindcss postcss autoprefixer
- Generate Configuration Files (tailwind.config.js vs postcss.config.js)
  - npx tailwindcss init -p
- Configure Path To Template Files:
  - Inside tailwind.config.js
- Add Tailwind Directives
  - Add the following into file index.css:

```
module.exports = {
  content: [
    "./src/**/*.{js,jsx,ts,tsx}",
  ],
  theme: {
    extend: {},
  },
  plugins: [],
}
```

```
@tailwind base;
@tailwind components;
@tailwind utilities;
```

How To Use Tailwind CSS With React – cont'd

- ## Use Tailwind CSS In Your React App
  - Replace the default code in src/App.js with the following implementation:

```
function App() {
  return (
    <div className="container mx-auto bg-gray-200 rounded-xl shadow border p-8 m-10">
      <p className="text-3xl text-gray-700 font-bold mb-5">Welcome!
      </p>
      <p className="text-gray-500 text-lg">React and Tailwind CSS in action
      </p>
    </div>
  );
}
export default App;
```

  - Start the development web server by using the following command:
npm run start

Welcome!

React and Tailwind CSS in action

Assignment 02

Summary

- Concepts were introduced:
  - Describe about Next.JS
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  - Describe about tailwind CSS
    - What is tailwind CSS?
    - Installation, Config and Run tailwind CSS