CADT IDT

W5 *- PRACTICE*

JSX - Dynamic Data - Components

At the end of this practice, you should be able to…

- ✓ Create a new **component** from HTML
- ✓ Translate HTML to **JSX**
- ✓ Understand the basic of **nested components**
- ✓ Draw a **diagram** component from some given code
- ✓ Understand how to display **data dynamically** using curly braces *{xx}* in JSX

How to work?

- ✓ Download **the start code** from the Google classroom
- ✓ For each exercise you can either:
  - ○ Run `npm install`
    - ○ Or move an existing `node_modules` to the exercise folder *(fastest option!)*

How to submit?

- ✓ **Create a repository on GitHub** with the name of this practice:

  Ex: C2-S1-PRACTICE
- ✓ **Push your final code** on this GitHub repository (if you are lost, follow this tutorial)
- ✓ Finally, submit on **Google classroom** your GitHub repository URL

  Ex: `https://github.com/thebest/ C2-S1-PRACTICE.git`

Are you lost?

You can read the following documentation to be ready for this practice:

https://www.w3schools.com/react/react_jsx.asp

https://www.w3schools.com/react/react_props.asp

https://www.gatsbyjs.com/docs/how-to/images-and-media/importing-assets-into-files/

EXERCISE 1

Your task is to create your first React **component**!

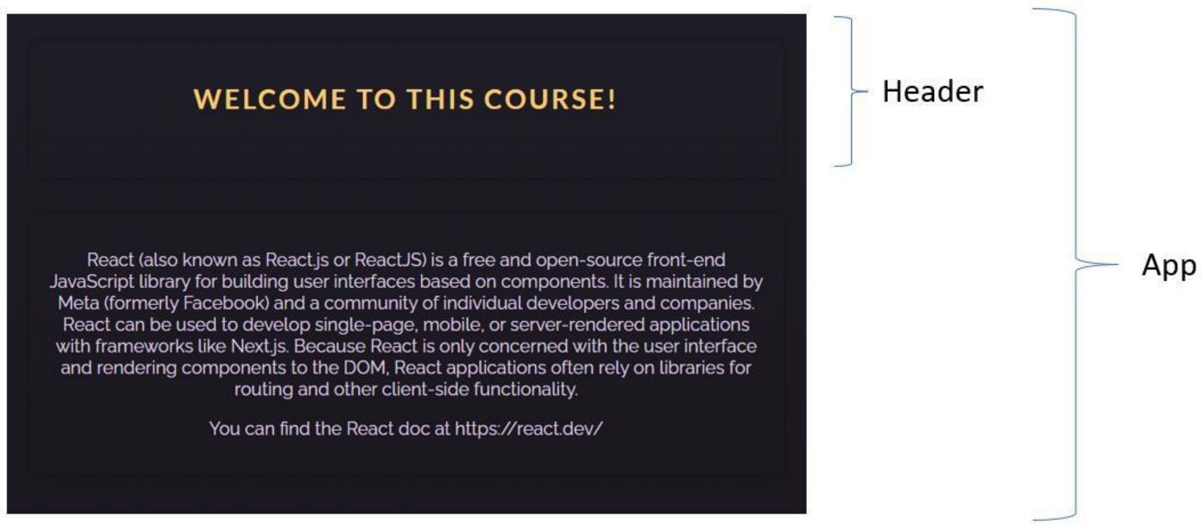
You have an App component, containing the header and the body.

- Create a component **Header** containing the header of the file.
- Change the code in the App component to use this new component

Notes:

- *You can create the component directly in the App file.*

The finished app could look like this:

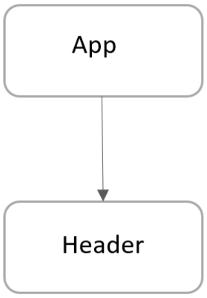


WELCOME TO THIS COURSE!

React (also known as React.js or ReactJS) is a free and open-source front-end JavaScript library for building user interfaces based on components. It is maintained by Meta (formerly Facebook) and a community of individual developers and companies. React can be used to develop single-page, mobile, or server-rendered applications with frameworks like Next.js. Because React is only concerned with the user interface and rendering components to the DOM, React applications often rely on libraries for routing and other client-side functionality.

You can find the React doc at https://react.dev/

The finished app diagram component:



EXERCISE 2

Well done!
Now your challenge is to **convert some vanilla HTML** into some React JS code!

Q1 – Research on internet and list down the **main differences** between **HTML** and **JSX** syntax

- **HTML uses lowercase (ex: class), while JSX uses camelCase (ex: className)**
- **JSX requires self-closing tags for elements like <img/>, while html allows <img>**
- **JSX allows embedding JavaScript inside {} like {variable} while HTML does not.**

Q2 – The first part is to create an **empty React project** which display Hello

- **Create a new React project** using the following command:

```
npm create vite exercise2 -- --template react
```

- On the root folder, **remove** the following useless file:

```
.eslintrc.cjs
README.md
.gitignore
```

- On `/src` folder remove, **remove** the following useless file:

```
/assets
App.css
```

- Edit the index.css and **remove all styles**
- Edit the App.jsx and just write a simple code:

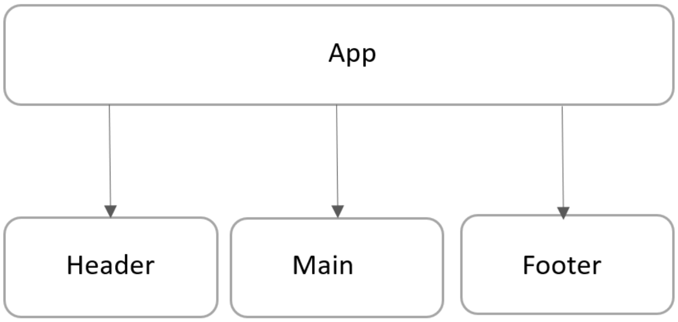
```
function App() {
  return (
    <>
      <p>Hello</p>
    </>
  );
}
export default App;
```

- From the root folder, launch npm install and npm run dev
- You have now a very simple ReactJS code that displays Hello:

Hello

Q3 – On this second part you need to **adapt** the original HTML code to your new created project:

Your code should be composed of 4 components, as bellow:

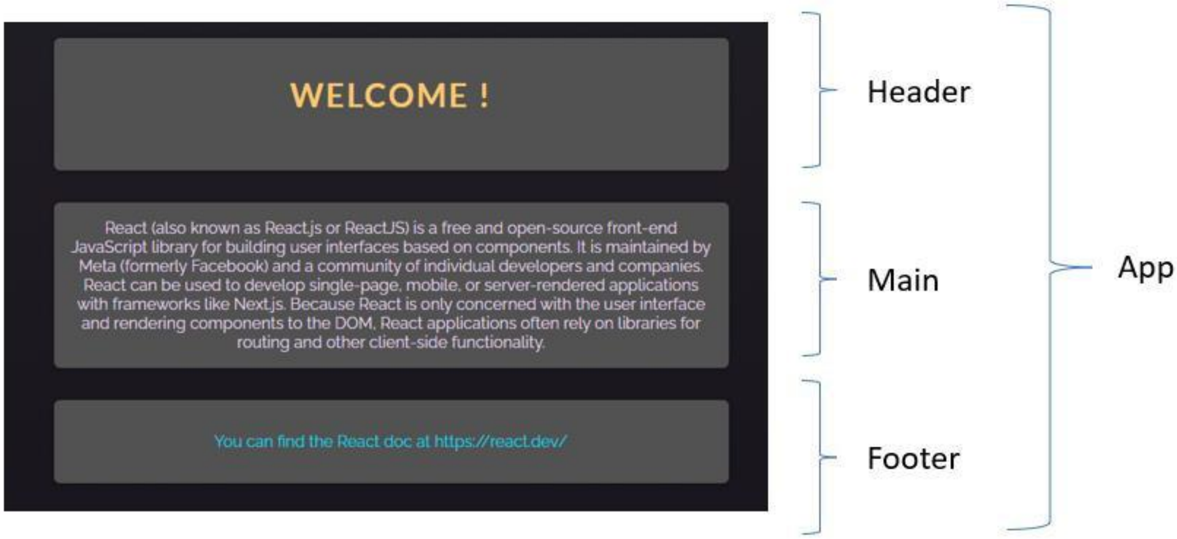


- Create a folder `/components`
- In this folder create 3 additional JSX files:
  - `Header.jsx`
  - `Main.jsx`
  - `Footer.jsx`

- Adapt the code from the original HTML code to those 4 compomers (App, header, Body and Footer)
  - Do not forget to **export** your components to use them outside!

- Finally, you can copy the original CSS code to your new project

The finished app could look like this:


WELCOME !

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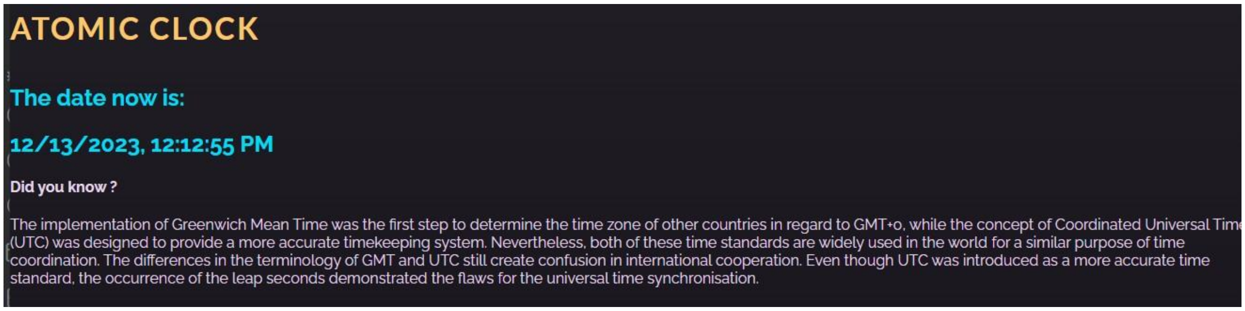
You can find the React doc at https://react.dev/

EXERCISE 3

Amazing!

Q1 - Now your challenge is to **draw a diagram component** from some existing React JS code.

1. Read the code
2. Identify components
3. Draw the diagram component *(using power point or another tool)*



ATOMIC CLOCK

The date now is:

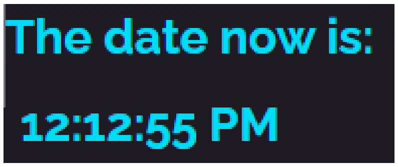
12/13/2023, 12:12:55 PM

Did you know ?

The implementation of Greenwich Mean Time was the first step to determine the time zone of other countries in regard to GMT+o, while the concept of Coordinated Universal Time (UTC) was designed to provide a more accurate timekeeping system. Nevertheless, both of these time standards are widely used in the world for a similar purpose of time coordination. The differences in the terminology of GMT and UTC still create confusion in international cooperation. Even though UTC was introduced as a more accurate time standard, the occurrence of the leap seconds demonstrated the flaws for the universal time synchronisation.

Q2 – Let's **play with dynamic data**:

- In **Header**, change the title to: "The amazing atomic clock"
- In **Time** component, change the code to display only the **time** only (not **date + time**)



The date now is:

12:12:55 PM

EXERCISE 4

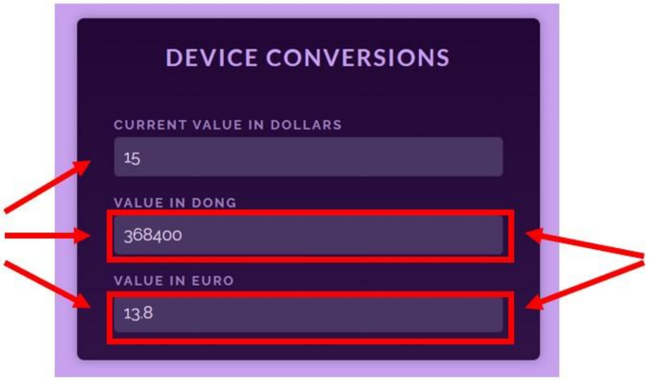
Amazoooome!

For this last exercise, your challenge is to provide the dynamic data for the 2 following fields:

- The value (15 dollars) converted in Dong
- The value (15 dollars) converted in Euro

<u>Important</u>

- You need to implement and call the functions already provided for you to convert dollar to other devices
- All inputs are disabled: we use them for display only, not to enter any value…



Not editable !

DEVICE CONVERSIONS

CURRENT VALUE IN DOLLARS

15

VALUE IN DONG

368400

VALUE IN EURO

13.8

Compute the values in those currencies