Chapter 02 - Assignment - Igniting our App

Please Note: *Write the answers and code on your own while finishing your assignments. Try to put down your thoughts into words by yourself in your own words. (This will help you develop muscle memory and you will remember all the concepts properly)* ✌

Theory Assignment:

- **- What is `NPM`?**
  NPM (Node Package Manager)also say Notorious Package Multiverse. No fixed acronyms for NPM. It is a tool that helps you install and manage libraries or packages in your project (like React, Parcel, etc.).

- - What is `Parcel/Webpack`? Why do we need it?
  They are **bundlers** — they take your HTML, CSS, JS, images, etc., and bundle them into a small optimized file before send to production so our website loads faster.

- - What is `.parcel-cache`
  It's a folder Parcel uses to **store cached files** for faster builds. You can delete it, but Parcel will recreate it automatically. Using the command *"npx parcel index.html"*

- - What is `npx` ?
  npm commands are used to **install packages** like React.
  npx is used to **execute those packages** directly, without installing them globally on your system.

- - What is difference between `dependencies` vs `devDependencies`
  - **dependencies**: Needed for your app to run (e.g. React)
  - **devDependencies**: Only needed during development (e.g. Parcel)

- - What is Tree Shaking?
  It removes **unused code** from your final bundle to make your app faster and smaller.

- - What is Hot Module Replacement?
  HMR automatically updates only the changed part of your app in the browser **without reloading the whole page**.
  So when you save a file, your changes instantly reflect on the screen — making development faster and smoother.

- - List down your favourite 5 superpowers of Parcel and describe any 3 of them in your own words.
  - HMR
  - Dev Build
  - Local Server
  - Caching – Faster build
  - Image Optimization

- - What is `.gitignore`? What should we add and not add into it?
  It's a file where you tell Git to **ignore files/folders** (like node_modules, .parcel-cache) so they're not pushed to GitHub.

- - What is the difference between `package.json` and `package-lock.json`

  - `package.json`: Lists your dependencies and project info.

  - `package-lock.json`: Locks exact versions of those dependencies for consistency.

- - Why should I not modify `package-lock.json`?
  It's auto-generated. Changing it manually can break dependency management.

- - What is `node_modules` ? Is it a good idea to push that on git?
  It contains all the libraries installed via NPM. ✕ Never push it — it's huge and can be recreated with npm install.

- - What is the `dist` folder?
  dist (short for "distribution") contains the **production-ready files** after building your app with Parcel.

- - What is `browserlists`
  It tells tools like Parcel or Babel **which browsers to support** when building your app (e.g., last 2 Chrome versions, IE 11, etc.).

  Read about dif bundlers: vite, webpack, parcel
- Read about: ^ - caret and ~ - tilda
- Read about Script types in html (MDN Docs)

Project Assignment:
- In your existing project
  - - intialize `npm` into your repo
  - - install `react` and `react-dom`
  - - remove CDN links of react
  - - install parcel
  - - ignite your app with parcel
  - - add scripts for "start" and "build" with parcel commands
  - - add `.gitignore` file
  - - add `browserlists`
  - - build a production version of your code using `parcel build`

References
- Creating your own create-react-app
- Parcel Documentation
- Parcel on Production
- BrowsersList: https://browserslist.dev/