1. What is `NPM` & why do we need it?

NPM is a library and a registry for JS software packages. React app is powered by a lot of things, lot of packages i.e., we have to removes the console, minify the code, do optimization, bundle things up for that we need helper packages, and these packages comes under npm.

1. What is `Parcel/Webpack/vite`? Why do we need it?

All these are bundlers. Most bundlers do the same job removes the console, minify the code, does optimization. In the original create app the bundler used was webpack.

1. What is `. parcel-cache`

The parcel-cache folder stores the information of the project when the project is built first time. So, when it is rebuilt, it does not have to reparse or re-analyse everything from scratch. This is one of the main reasons that parcel is so fast in the development mode.

1. What is `npx`

NPX is a NPM package executer, it is used to execute packages directly available on the npm registry without even installing them.

1. What is difference between `dependencies` vs `devDependencies`

Dependencies-> Packages that are required in production. devDependencies-> Packages that are required during development and testing. Only on Developer Machine-> "-D" OR --save--dev.

1. What is Tree Shaking?

Removal of a dead code from a JS file is called tree shaking. In modern JS applications bundlers are used which automatically performs this task to make the app production ready.

1. What is Hot Module Replacement?

Automatically refreshing the pages on saving the code. This task is done by File Watchers Algorithm. It is written in C++.

1. List down your favourite 5 superpowers of Parcel and describe any 3 of them in your own words.
2. Zero Config Bundler - no need to do any configuration.
3. Enable HTTPS on local dev machine – by doing – https
4. Manages Port Number – If multiple applications are running on the same machine it changes the port number for the other one
5. Minification - Cleaning our code removes console log, Image Optimization, Compression -> renames the variable names in the JS file.
6. What is `.gitignore`? What should we add and not add into it?

It is a file that tells git to ignore the files or folders in the project preventing it from uploading to the GitHub. Anything that can be auto generated should be put on git ignore. If I have package & package-lock.json I can generate the node\_modules.

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

Package lock json is a imp file that locks the version and never keep it in git ignore and if we want to know the exact version of any package used refer to package-lock becuz there is no ^ or ~ there. Never touch node modules & package lock json

1. Why should I not modify `package-lock.json`?

Because node\_modules gets installed by referring this file and we might face a issue on client-side or production-side our application may break if packages or dependencies are not installed with a proper version.

1. What is `node\_modules` ? Is it a good idea to push that on git?

node\_modules directory contain all the dependencies packages like react, react-dom, transitive dependencies like parcel, babel which are required to build and run the React project.

One dependency has dependency on another and that has dependency on another like this a dependency tree gets created this is called transitive dependency.

(NPM) Package manager that takes care of all transitive dependencies

1. What is the `dist` folder?

The dist folder contains the minified version of our code. The code in it is used on the production web applications.

1. What is `browserlists`

Browserlist helps the app to work in older browsers like I.E.

adds polyfills

1. Read about: ^ - caret and ~ - tilda

^ Caret -> will upgrade the project for only minor version like 2.9.3 to 2.9.4 not major versions; ~ Tilda -> will upgrade the project for major versions only not minor versions like 2.9.3 to 3.0.0

1. Read about Script types in html (MDN Docs)

Module can import and export, normal scripts cannot.

Other Notes:

* About Intergrity in package-lock -> Hash maintains the integrity that versions of the packages are same on the sever machine as well as our local machine
* npm init -> npm gets installed we get package.json file
* npm i -D parcel -> parcel gets installed
* npx parcel index.html(entry point) -> run the project, builds the cache

React is doing minification no parcel is doing it.

Features of Parcel

1) HMR - Hot Module Replacement

2) File Watcher algorithm - C++

3) Bundling in dist folder

4) Minification

5) Cleaning our code - removes console log

6) Manages Dev & Prod build

7) Super Fast build algo

8) Image Optimization

9) Caching while development

10) Compression - renames the variable

11) Compatible with older version of browser - adds polyfills

12) Enable HTTPS on local dev machine

13) Manages Port Number

14) Uses Consistent Hashing Algorithm

15) Zero Config Bundler - no need to do any configuration

16) Created A Server