**TypeScript**

A diagram of a typewriter

Description automatically generated

* TypeScript is a superset of JavaScript by adding static type definitions.
* TypeScript helps developers to catch the errors early through type checking at compile time and it facilitates the development of large scale applications with improved code quality and maintainability.
* npm install typescript 🡪 installs typescript OR npm install –global typescript@5.5.2
* npx --package typescript tsc –init
* npx tsc –verison 🡪will give u the typescript version installed
* Create a ts file and npx tsc <filename>.ts 🡪 It will create <filename>.js
* Once js file is created we can execute in two ways:
  + Create a html and call this JS from it and run the html in browser
  + Use command 🡪 *node <filename>.js* This will execute and run the command there itself.
* public id : number 🡪 This is called *type annotation* which tells TypeScript compiler that *id* property can only be assigned *number* type. Typescript assumes all the methods and properties are public by default unless specified otherwise.
* npm install @babel/plugin-transform-modules-commonjs
* *node <filename>.js* command is used to execute javascript code as node itself is a javascript engine
* **TypeScript Compiler**:
  + npm init –yes 🡪 Creates packages.json in the folder
  + npm install –save-dev [typescript@5.0.2](mailto:typescript@5.0.2) 🡪 Here ‘—save-dev’ tells NPM that these are packages that are used for development not for application.
  + npm install –save-dev [tsc-watch@6.0.0](mailto:tsc-watch@6.0.0) 🡪 This installs tsc-watch
  + npx tsc –init 🡪 This creates tsconfig.json
    - A computer code with text

      Description automatically generated Once tsconfig.json is added run the **npx tsc** command so that ‘dist’ folder gets created.

