**Type script**

Typescript is a programming language developed by Microsoft that builds on JavaScript by adding static types. It’s designed for large-scale application development and is often used in projects where JavaScript's flexibility can become a limitation.

**Static Typing:**

Unlike **JavaScript**, where **types** are **determined at runtime**, TypeScript allows you to **define types for variables, function** parameters, and **return** **values** at **compile** **time**. This helps **catch errors early**, **improving** code **quality** and **maintainability**.

**Why Use TypeScript?**

* **Improved Code Quality:** By **catching errors** during **development** rather than **at runtime**, TypeScript helps **reduce bugs** and **improves code quality**.
* **Better Collaboration:** TypeScript’s type **annotations** and **interfaces** make it **easier** for teams **to understand** and work on large codebases.
* **Maintainability:** TypeScript’s type system helps **maintain code over time**, especially as **projects grow in size and complexity**.

**powershell -ExecutionPolicy Bypass -File < C:\Users\PAVAN\Desktop\JavaScript\TypeScrip>**

**Installing TypeScript**

Open your terminal or command prompt.

Run the following command to install TypeScript globally:

**npm install -g typescript**

Verify the installation by checking the TypeScript version:

**tsc --version**

**tsconfig.json** (it adds typescript configuration)

**tsc --init**

**Run Type Script**

Go to terminal 🡪type tsc crashCourse.ts (it creates js file by default)🡪 node node crashCourse.js

PS C:\Users\PAVAN\Desktop\JavaScript\TypeScript\typeScript\_CrashCourse> tsc crashCourse.ts

PS C:\Users\PAVAN\Desktop\JavaScript\TypeScript\typeScript\_CrashCourse> node crashCourse.js

**Errors**

**While checking TypeScript Version if you see below error please follow the solution**

**PS C:\Users\PAVAN\Desktop\JavaScript\TypeScript> tsc --version**

**>>**

**tsc : File C:\Users\PAVAN\AppData\Roaming\npm\tsc.ps1 cannot be loaded because running scripts is disabled on this system. For more information,**

**see about\_Execution\_Policies at https:/go.microsoft.com/fwlink/?LinkID=135170.**

**At line:1 char:1**

**+ tsc --version**

**+ ~~~**

**+ CategoryInfo : SecurityError: (:) [], PSSecurityException**

**+ FullyQualifiedErrorId : UnauthorizedAccess**

**Solution:** go to search bar 🡪 search windows PowerShell 🡪 enter text(Set-ExecutionPolicy RemoteSigned -Scope CurrentUser) 🡪 enter y

