Intro to TypeScript

Here are some things you might need to know 🤔

What exactly is TypeScript? 🤷‍♂️

TypeScript is a strongly typed programming language that builds on JavaScript, giving you better tooling at any scale. Essentially, TypeScript is a superset of JavaScript.

TypeScript = JavaScript + A type system

What are types?

In a programming language, types refer to the **kind or type of information** a given program stores. Information or data can be classified as different types depending on its content.

Programming languages usually have built in data types. In JavaScript, there are **six basic data types** which can be divided into **three main categories**:

- Primitive data types
- Composite data types
- Special data types

String, Number, and Boolean are **primitive** data types.

Object, Array, and Function (which are all types of objects) are **composite** data types.

Whereas Undefined and Null are **special** data types.

Primitive data types can hold **only one value at a time**, whereas **composite** data types can hold **collections of values** and more complex entities.

What is the goal of a type system?

- Helps us to catch errors during development
- Uses ‘type annotations’ to analyze our code
- Only active during development
- Doesn’t provide any performance optimization

Type annotations and type inferences

Type annotations: Code that we add to tell TypeScript what type of value a variable will refer to

Type inference: TypeScript tries to figure out what type of value a variable refers to

When to use type annotations:

- Function that returns the ‘any’ type
- When we declare the variable on one line and initialize it later
- Variable whose type cannot be inferred correctly