ONE PAGE SUMMARY

IT & Software › Programming Foundations › TypeScript

Introduction to TypeScript

TypeScript enhances JavaScript with strong typing and modern features.

DEFINITION

TypeScript is a superset of JavaScript that adds static typing and other features. It helps developers write more robust and maintainable code.

KEY CONCEPTS

Static Typing

TypeScript allows you to define variable types, reducing runtime errors.

Interfaces

Interfaces define the shape of objects, ensuring consistent structure in your code.

Generics

Generics enable you to create reusable components that work with any data type.

Type Inference

TypeScript can automatically infer types, making coding easier without explicit declarations.

Decorators

Decorators are special annotations that modify classes and methods, enhancing functionality.

EXAMPLES

→ let num: number = 5;

→ interface User { name: string; age: number; }

→ function identity<T>(arg: T): T { return arg; }

MEMORY TIPS

★ Think of TypeScript as JavaScript with a safety net.

★ Remember 'I' for Interfaces and 'G' for Generics.

★ Visualize types as labels on boxes to prevent mixing contents.

COMMON MISTAKES

✗ Forgetting to declare types, leading to implicit 'any'.

✗ Confusing interfaces with types, as they serve different purposes.

✗ Neglecting to enable strict mode for better type checking.

QUICK RECAP

TypeScript improves JavaScript by adding static typing and modern features. Understanding key concepts like interfaces and generics is crucial for effective coding.