



# TypeScript

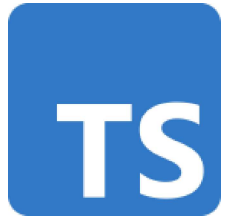
## INTERVIEW

QUESTIONS AND ANSWERS



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### 1. What are the main data types in TypeScript?

**Answer:** Built-in types include `string`, `number`, `boolean`, `null`, `undefined`, `any`, and `void`. User-defined types are arrays, enums, classes, and interfaces.

### 2. How does TypeScript handle arrays?

**Answer:** Arrays in TypeScript are static and only allow elements of a specified type.

### 3. What are the three ways to declare variables in TypeScript?

**Answer:** `var` for function-scoped variables, `let` for block-scoped variables, and `const` for constants.

### 4. What is the `any` type in TypeScript?

**Answer:** The `any` type allows a variable to store values of any data type.

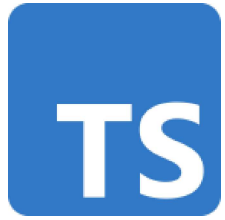
### 5. What are the advantages of TypeScript?

**Answer:** Strong typing, better error handling during development, and support for modern JavaScript features.

### 6. What is the `void` type in TypeScript?

**Answer:** `void` is used to represent functions that do not return a value.





### 7. What is the `null` type in TypeScript?

**Answer:** It represents the absence of a value and can be explicitly assigned to variables.

### 8. Can TypeScript objects have optional properties?

**Answer:** Yes, optional properties can be declared using the `?` symbol.

### 9. What is the `never` type?

**Answer:** It represents values that never occur, often used in functions that always throw errors or run indefinitely.

### 10. What are enums in TypeScript?

**Answer:** Enums allow you to define a set of named constants, which can be either numeric or string-based.

### 11. Is TypeScript a strictly statically typed language?

**Answer:** No, it is optionally statically typed, meaning you can choose when to use strict typing.

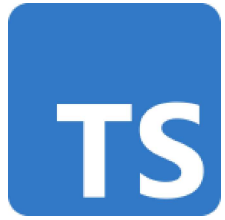
### 12. What is the `typeof` operator in TypeScript?

**Answer:** `typeof` is used to check the type of a variable.

### 13. What are interfaces in TypeScript?

**Answer:** Interfaces define a structure for objects, dictating what properties or methods an object must have.





### **14. What is the difference between classes and interfaces?**

**Answer:** Classes can implement behavior (methods), while interfaces define a structure without implementation.

### **15. How do you compile TypeScript into JavaScript?**

**Answer:** Use the `tsc` command to compile `.ts` files into `.js`.

### **16. What are modules in TypeScript?**

**Answer:** Modules allow grouping of classes, functions, and interfaces into separate files and can be imported/exported.

### **17. What are decorators in TypeScript?**

**Answer:** Decorators are functions that add metadata or modify the behavior of classes, methods, or properties.

### **18. What is union typing in TypeScript?**

**Answer:** Union types allow a variable to store values of multiple specified types.

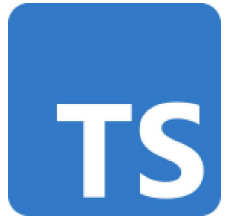
### **19. What is a type alias?**

**Answer:** Type aliases allow you to define custom names for combined or complex types.

### **20. What is the `in` operator in TypeScript?**

**Answer:** It checks if a specific property exists in an object.





### 21. What is type inference?

**Answer:** Type inference automatically assigns a type to variables based on their assigned values.

### 22. How does TypeScript support Object-Oriented Programming (OOP)?

**Answer:** TypeScript supports OOP principles like encapsulation, abstraction, inheritance, and polymorphism.

### 23. What is the `readonly` property in TypeScript?

**Answer:** `readonly` is used to create immutable object properties.

### 24. What is the use of `tsconfig.json`?

**Answer:** It configures the TypeScript compiler and defines root files and compiler options.

### 25. What are mixins in TypeScript?

**Answer:** Mixins allow the reuse of partial class behavior in other classes through composition.



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