TypeScript

INTERVIEW

QUESTIONS AND ANSWERS

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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