

1 TypeScript Code Example

Below is an example of TypeScript code using our custom greyscale listings style:

```
1 // Interface definition
2 interface Person {
3   name: string;
4   age: number;
5   email?: string;
6 }
7
8 // Function with type annotations
9 function greet(person: Person): string {
10   return `Hello, ${person.name}! You are ${person.age} years old.`;
11 }
12
13 // Using the interface and function
14 const john: Person = {
15   name: "John Doe",
16   age: 30,
17   email: "john@example.com"
18 };
19
20 console.log(greet(john));
21
22 // Generic function
23 function identity<T>(arg: T): T {
24   return arg;
25 }
26
27 let output = identity<string>("TypeScript is awesome");
28 console.log(output);
29
30 // Class with access modifiers
31 class Animal {
32   private name: string;
33   protected species: string;
34
35   constructor(name: string, species: string) {
36     this.name = name;
37     this.species = species;
38   }
39
40   public makeSound(sound: string): void {
41     console.log(`${this.name} says ${sound}`);
42   }
43 }
44
```

```
45 // Inheritance
46 class Cat extends Animal {
47     constructor(name: string) {
48         super(name, "Felis catus");
49     }
50
51     public purr(): void {
52         this.makeSound("purr");
53     }
54 }
55
56 const whiskers = new Cat("Whiskers");
57 whiskers.purr();
```

Listing 1.1: Sample TypeScript Code

This example demonstrates various TypeScript features, including interfaces, functions with type annotations, generics, classes with access modifiers, and inheritance.