

### Types

String	let customerName: string = "John Doe";
Number	let price: number = 19.95;
Boolean	let shipped: boolean = false;
Date	let orderDate: Date = new Date(2017, 2, 9);
Any	let something: any = "Can be anything";
Enum	enum Color {Red, Green, Blue};
Array	let cards: string[] = ['Visa', 'MasterCard'];
Null	let orderId: number = null;
Tuple	let stateTaxRates: [string, number];
Void	function log(msg: string): void { console.log(msg); }
Const	const lives: number = 99;

### Classes

```
class OrderLogic {
    constructor(public order: IOrder) {}
    get OrderTotal(): number {
        let sum: number = 0;
        for (let orderDetail of this.order.orderDetails) {
            sum += orderDetail.price;
        }
        return sum;
    }
}
```

### Abstract Classes

```
abstract class Person {
    name: string;
    monthlySalary: number;
    monthlyBenefits: number;
    abstract calculate(): number;
}
```

### Inheritance and Implementing Interfaces

```
interface IGPS {
    getLocation(): number;
}
interface ISelfDrive extends IGPS {
    drive(latitude: number, longitude: number,
    elevation: number) : void;
}
class Vehicle {
    make: string;
    model: string;
    year: number;
}
class FlyingCar extends Vehicle implements ISelfDrive {
    hasGps: boolean;
    drive(latitude: number, longitude: number,
    elevation: number) {
    }
    getLocation(): number {
    }
}
```

### Usage

Installing TypeScript npm	npm install -g typescript
Compiling TypeScript	tsc somefile.ts
TypeScript Docs	TypeScriptLang.org
Type Definition Files	DefinitelyTyped.org

### Scope/Modifiers

Public (default)	public firstName: string;
Protected	protected inventory: number;
Private	private outOfStock: boolean;
Read Only	readonly pi: number = 3.14159;
Static	static log(msg: string) { console.log(msg) };



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### Interfaces

```
interface IOrderDetail {
  productName: string;
  quantity: number;
  price: number;
  orderDate: Date;
  shipped: boolean;
  //Optional
  outOfStock?: boolean;
  //Method
  calculateTax: (taxRate: number) => number;
}
```

### Optional Parameters

```
class Util {
  log(msg: string, logDate?: Date) {
    if (logDate)
      console.log(logDate + ' ' + msg);
    else
      console.log(new Date() + ' ' + msg);
  }
}
```

### Rest Parameters

```
class Order {
  addOrderDetails(...orderDetails:
  IOrderDetail[]) {
  }
}
```

### Namespaces

```
namespace AcmeCorp.Logging {
  export class Logger {
    static log(msg: string) : void {
      console.log(msg);
    }
  }
}
// <reference path="AcmeCorp.Logging.ts" />
//Alias
import logger = AcmeCorp.Logging.Logger;
namespace AcmeCorp.Online.Store {
  class OrderLogic {
    calculateOrder(): number {
      logger.log("calculating
order");
      return 0;
    }
  }
}
```



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