

## Part2

### 1. What is a Copy Constructor?

- . A copy constructor is a special constructor in object-oriented programming (commonly in C++).
- . It initializes a new object as a copy of an existing object.
- . Syntax example in C++:

3-An indexer in C# is a feature that lets you treat an object like a collection, so you can access its elements using a simple, array-like syntax. Instead of calling methods like `GetItem()` or `Find()`, you can directly use square brackets to retrieve or assign values.

When it's used:

- Encapsulating collections: If your class internally manages a list, dictionary, or array, indexers let you expose that data in a clean, intuitive way.
- Improving readability: They make code easier to understand because accessing items looks natural, like working with arrays.

#### Business scenarios:

- A company class could allow access to employees by their ID or position in a list.
- A product catalog might let you retrieve products by index or key.
- A financial application could expose transactions by date or sequence number.

