**What is a Tuple in C#?**

A **Tuple** is a lightweight data structure used to group multiple values together in a single object — without creating a custom class.

Example:

var person = (Name: "John", Age: 30);

Console.WriteLine(person.Name); // Output: John

Here, person is a tuple holding two values: Name (string) and Age (int).

**✅ Relation Between Tuple and Data Structure**

* A **Data Structure** is a way to organize and store data
* **Tuple** is a simple built-in data structure to group related data
* It's useful when you want to return multiple values from a method without creating a class

Example:

public (int Sum, int Product) Calculate(int x, int y)

{

return (x + y, x \* y);

}

Calling:

var result = Calculate(3, 4);

Console.WriteLine(result.Sum); // Output: 7

Console.WriteLine(result.Product); // Output: 12

**✅ When to Use Tuple?**

✔ When you need to return multiple values quickly  
✔ For simple, temporary grouping of data  
✔ Avoids creating extra classes for small data containers

**✅ Summary**

* Tuple = Mini data structure to group values
* Easy, fast, no need for extra classes
* Useful for functions returning multiple values