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Extension Methods

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Extension Methods

- Extension methods are used to add additional methods to an existing class (or struct or interface), without modifying the source code of that class (or struct or interface).
- You must create a static class with a static method; that it will be added as a non-static method to the specified class.
- Advantages:
  - The developer of ClassLibrary, creates a class with a set of methods.
  - The consumer of ClassLibrary, can add additional methods to the same class, without modifying the source code of the ClassLibrary.

Extension Methods - Syntax

Existing Class

```
class ClassName
{
}
```

Static Class for Extension Method

```
static class ClassName
{
    public static ReturnType MethodName(this ClassName ParameterName, ...)
    {
        method body here
    }
}
```

Rules of Extension Methods

- An extension method must be defined in a top-level static class (can't be created in inner classes).
- Extension methods cannot be used to override existing methods.

- Extension methods are additional custom methods which were originally not included with the class.
- Extension methods can be added to custom, .NET Framework or third party classes, structs or interfaces.
- The first parameter of the extension method must be of the type for which the extension method is applicable, preceded by the **this** keyword.
- Extension methods can be used anywhere in the application by including the namespace of the extension method.
- The concept of extension methods cannot be applied to fields, properties or events.
- Overuse of extension methods is not a good style of programming.