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# Laboratory Work

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## 1) Anonymous variables in c#

In C#, an anonymous type is a type (class) without any name that can contain public read-only properties only. It cannot contain other members, such as fields, methods, events, etc.

You create an anonymous type using the *new* operator with an [object initializer](#) syntax. The [implicitly typed variable- var](#) is used to hold the reference of anonymous types.

The following example demonstrates creating an anonymous type variable `student` that contains three properties named `Id`, `FirstName`, and `LastName`.

### Example: Anonymous Type

```
var student = new { Id = 1, FirstName = "James", LastName = "Bond" };
```

2)

## Local functions in c#

C# 7.0 adds a new feature called local functions, which allows local methods to be defined and called within a method. This wasn't possible in the previous versions. The following code snippet defines a method named "Add" inside the "Main" method and calls within the "Main" method.

```
01. static void Main(string[] args)
02. {
03.
04.     int Add(int a, int b)
05.     {
06.         return a + b;
07.     }
08.
09.     Console.WriteLine(Add(3,4));
10.     Console.ReadKey();
11. }
```

## 3) String manipulation

Sometimes an application has to do a lot of string manipulation operations. Especially when it needs to print data in a well specified format. Sometimes it just needs to let user know something. In this post I'll show you few techniques how to manipulate strings and explain what are consequences of using each.

[Code report here](#)

[Code screen shots here](#)

## References

<https://www.c-sharpcorner.com/article/local-functions-in-c-sharp-7-0/>

<https://www.tutorialsteacher.com/csharp/csharp-anonymous-type>

<https://docs.microsoft.com/en-us/dotnet/api/system.string?view=netcore-3.1>