* By default, the **Debug.Assert** method works only in debug builds.
* Use **the Trace.Assert** method if you want to do assertions in release builds.
* Debug mode and Release mode are different configurations for building your .Net project. Programmers generally use the Debug mode for debugging step by step their .Net project and select the Release mode for the final build of Assembly file (.dll or .exe).
* The **Debug mode** does not optimize the binary it produces because the relationship between source code and generated instructions is more complex. This allows breakpoints to be set accurately and allows a programmer to step through the code one line at a time. The Debug configuration of your program is compiled with full symbolic debug information which help the debugger figure out where it is in the source code.
* The **Release mode** enables optimizations and generates without any debug data, so it is fully optimized. . Lots of your code could be completely removed or rewritten in Release mode. The resulting executable will most likely not match up with your written code. Because of this release mode will run faster than debug mode due to the optimizations.
* #if compiler directive, they use "DEBUG"

# Task.ContinueWith

* Creates a continuation that executes asynchronously when the target [Task](https://msdn.microsoft.com/en-us/library/system.threading.tasks.task(v=vs.110).aspx) completes

**Action<>**

* The Generic Action<> delegate is defined in the System namespace of microlib.dll
* This Action<> generic delegate, points to a method that takes up to 16 Parameters and returns void.

**Func<>**

* The generic Func<> delegate is used when we want to point to a method that returns a value.
* This delegate can point to a method that takes up to 16 Parameters and returns a value.
* Always remember that the final parameter of Func<> is always the return value of the method. (For examle Func< int, int, string>, this version of the Func<> delegate will take 2 int parameters and returns a string value.)