# System.IO Namespace

# System.IO

To manipulate files we will look at the following:

- file, FileInfo
- Directory, DirectoryInfo
- Path

# File, FileInfo

These provide methods for:

- creating (files)
- copying
- deleting
- moving
- opening

**Note**

FileInfo - Provides instance methods

File - provides static methods

# File, FileInfo - methods:

These are some of the most common methods:

Create()
Copy()
Delete()
Exists()
GetAttributes()
Move()
ReadAllText()

# Directory, DirectoryInfo

For working with Directories:

Directory - provides static methods

DirectoryInfo - provides instance methods

# Directory, DirectoryInfo

These are some of the common methods for working with Directoories:

CreateDirectory()
Delete()
Exists()
GetCurrentDirectory()
GetFiles()
Move()
GetLogicalDrives()

# Path

These are some of the common methods when working with file paths:

GetDirectoryName()

GetFileName()

GetExtension()

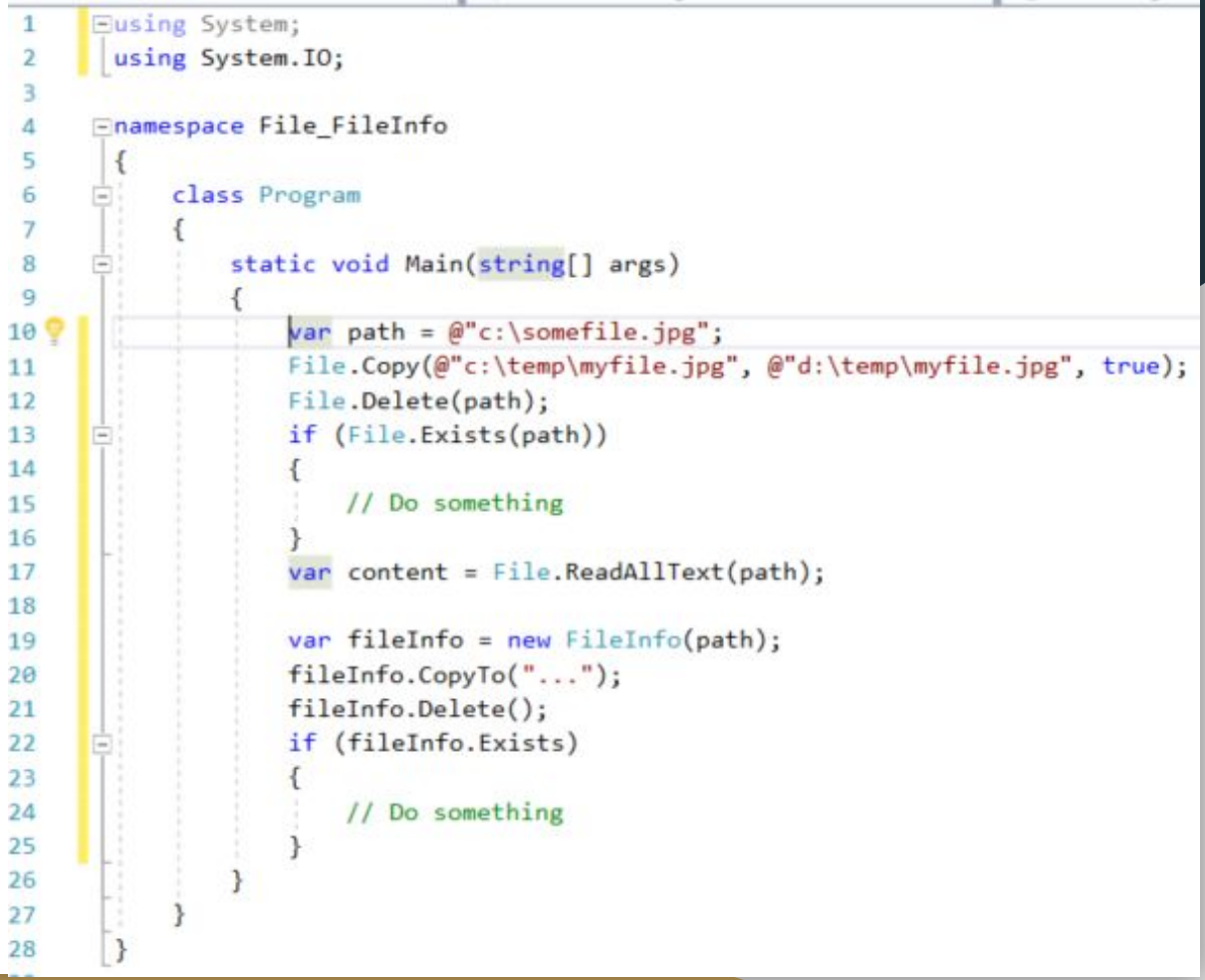
GetTempPath()

# Exercise - File, fileInfo

Type in the following code →

For this to work you need to set path (line 10) to a path on your computer, and path and file on line 11 to a file that exists.

Both file and file info are demonstrated.



```
1  using System;
2  using System.IO;
3
4  namespace File_FileInfo
5  {
6      class Program
7      {
8          static void Main(string[] args)
9          {
10             var path = @"c:\somefile.jpg";
11             File.Copy(@"c:\temp\myfile.jpg", @"d:\temp\myfile.jpg", true);
12             File.Delete(path);
13             if (File.Exists(path))
14             {
15                 // Do something
16             }
17             var content = File.ReadAllText(path);
18
19             var fileInfo = new FileInfo(path);
20             fileInfo.CopyTo("...");
21             fileInfo.Delete();
22             if (fileInfo.Exists)
23             {
24                 // Do something
25             }
26         }
27     }
28 }
```

# Exercise - Directory

Type the Code →

As with the previous you will need to amend lines 10, 12, 16 to paths and files that exist on your computer.

```
1   using System;
2   using System.IO;
3
4   namespace Directory1
5   {
6       class Program
7       {
8           static void Main(string[] args)
9           {
10              Directory.CreateDirectory(@"c:\temp");
11
12              var files = Directory.GetFiles(@"c:\projects\CSharp", "*.sln*", SearchOption.AllDirectories);
13              foreach (var file in files)
14                  Console.WriteLine(file);
15
16              var directories = Directory.GetDirectories(@"c:\projects\CSharp", "*.*", SearchOption.AllDirectories);
17              foreach (var directory in directories)
18                  Console.WriteLine(directory);
19
20              Directory.Exists("...");
21
22              var directoryInfo = new DirectoryInfo("...");
23                  directoryInfo.GetFiles();
24              directoryInfo.GetDirectories();
25          }
26      }
27  }
```

# Path

Type in code →

As with previous examples please alter line 10 to a suitable path and file.

```
1  using System;
2  using System.IO;
3
4  namespace Paths1
5  {
6      class Program
7      {
8          static void Main(string[] args)
9          {
10             var path = @"C:\Projects\CSharp\HelloWorld\HelloWorld.sln";
11
12             Console.WriteLine("Extension: " + Path.GetExtension(path));
13             Console.WriteLine("File Name: " + Path.GetFileName(path));
14             Console.WriteLine("File Name Without Extension: " + Path.GetFileNameWithoutExtension(path));
15             Console.WriteLine("Directory Name: " + Path.GetDirectoryName(path));
16         }
17     }
18 }
```

# Exercises

1. Write a program that reads a text file and displays the number of words.
2. Write a program that reads a text file and displays the longest word in the file.