## Lab No. 11

Filling

## C# stream

Stream provides a generic interface to the types of input and output, and isolate the programmer from the specific details of the operating system and the underlying devices. For instance, MemoryStream works with data located in the memory and FileStream with data in a files.

## C# read text file with File.ReadAllText

The File.ReadAllText() method opens a text file, reads all lines of the file into a string, and then closes the file.

Example 1

using System;

using System.IO;

using System.Text;

namespace ReadAllText

{

class Program

{

static void Main(string[] args)

{

var path = @"C:\Users\Jano\Documents\thermopylae.txt";

string content = File.ReadAllText(path, Encoding.UTF8);

Console.WriteLine(content);

}

}

}

## C# read text file with File.ReadAllLines

The File.ReadAllLines() opens a text file, reads all lines of the file into a string array, and then closes the file.

The FileStream class provides a Stream for a file, supporting both synchronous and asynchronous read and write operations. The constructor initializes a new instance of the FileStream class with the specified path, creation mode, and read/write permission.

Example 2

using System;

using System.IO;

using System.Text;

namespace ReadAllLines

{

class Program

{

static void Main(string[] args)

{

var path = @"C:\Users\Jano\Documents\thermopylae.txt";

string[] lines = File.ReadAllLines(path, Encoding.UTF8);

foreach (string line in lines)

{

Console.WriteLine(line);

}

}

}

}

## C# reading text file with StreamReader

StreamReader is designed for character input in a particular encoding. It is used for reading lines of information from a standard text file.

### Using StreamReader's ReadToEnd

The ReadToEnd() method reads all characters from the current position of the stream to its end.

Example 3

using System;

using System.IO;

using System.Text;

namespace StreamReaderReadToEnd

{

class Program

{

static void Main(string[] args)

{

var path = @"C:\Users\Jano\Documents\thermopylae.txt";

using var fs = new FileStream(path, FileMode.Open, FileAccess.Read);

using var sr = new StreamReader(fs, Encoding.UTF8);

string content = sr.ReadToEnd();

Console.WriteLine(content);

}

}

}

StreamReader's ReadToEnd() method reads all characters from the current position to the end of the file.

### **Using StreamReader's ReadLine**

The ReadLine() method of the StreamReader reads a line of characters from the current stream and returns the data as a string.

Example 4

using System;

using System.IO;

using System.Text;

namespace StreamReaderReadLine

{

class Program

{

static void Main(string[] args)

{

var path = @"C:\Users\Jano\Documents\thermopylae.txt";

using var fs = new FileStream(path, FileMode.Open, FileAccess.Read);

using var sr = new StreamReader(fs, Encoding.UTF8);

string line = String.Empty;

while ((line = sr.ReadLine()) != null)

{

Console.WriteLine(line);

}

}

}

}

Example 5

The code example reads a file line by line.

string line = String.Empty;

while ((line = streamReader.ReadLine()) != null)

{

Console.WriteLine(line);

}

In a while loop, we read the contents of the file line by line with the StreamReader's ReadLine() method.

TASKS:

1. Design a program of Employee in which you have to take information of 05 employees. Information includes (employee\_id, name, date of birth, email, residential address, job title, salary…etc.) and save all the records in a txt file using StreamWriter.
2. Design a program of Grocery items in which you have to take data of 15 items. Items includes (item\_id, item name, date of manufacturing, date of expiration, quantity, price…etc.). Save all the data in a txt file using StreamWriter and print the data using StreamReader.