List<T>, Struct, File & Directory C#

Select the namespace on which the stream classes are defined?

a) System.Output
b) System.IO
c) System.Input
d) All of the above

Choose the stream class method which is used to close the connection:

a) void Close()
b) Close()
c) static Close()
d) None of the above

Select the method which writes the contents of the stream to the physical device:

a) Fflush()
b) Flush()
c) void Flush()
d) void Fflush

Select the statements which define the stream:

a) C# programs perform I/O through streams
b) A stream is an abstraction that produces or consumes information
c) A stream is linked to a physical device by the I/0 system
d) All of the above

How can we delete all files in a directory?
a) File.Delete(path)
b) File.Delete()
c) Directory.Delete(path,true)
d) Directory.Delete(path,false)

How to read entire file in one line using C#?
a) Files.ReadAllLines()
b) Files.Read()
c) Files.ReadFile()
d) None of the above

FILL IN THE BLANKS

StreamReader includes implementations of _____ and _____ methods. These methods can be used to retrieve data from the file.

One of the arguments that can be included with the constructor for the _____ class is a Boolean variable indicating whether the file should be appended to or overwritten if it already exists.

The _____ method appends an element to the end of a List.

The _____ property returns the number of elements currently in a List.

File method _____ determines whether a string is the name and path of an existing file.

A(n) _____ is used to walk through a collection but cannot remove elements from the collection during the iteration.

State whether each of the following is true or false. If false, explain why.

The Remove method of the List class removes an element at a specific index.
Lists can be indexed like arrays by placing the index in square brackets after the List object's name.
Class File provides instance methods for determining information about files and can be used to open files for reading or writing.
Directory method Exists determines whether a string passed as a parameter is the name of an existing file.
A field of a structure cannot be an array.
The field Name of a struct Student must be used in the following way Student.Name.

Exercise

Given the following struct

```
struct Student{
public string Name;
public string Surname;
public double[] Grades;
}
```

State whether each of the following is true or false. **If false, explain why.**
To declare a list of 10 students you write: List<Student> ls= new List<Student>(10);
In order to know the third grade of the first student you write ls[0].Grades[3]

Exercise

Given the following code snippet

```
List<string> list = new List<string>();

list.Add( "Andy" );
list.Add( "Bart" );
list.Add( "Carl" );
list.Add( "Doug" );
list.Add( "Elmo" );
```

which of the following instructions substitute "Carl" with "Paul"

a) list[2] = "Paul";
b) list.Insert(2, "Paul");
c) list.Insert(list.IndexOf("Paul"),"Carl");
d) list.Insert(list.IndexOf("Carl "),"Paul");

Questions

Explain how we can get the size of a specified file?

List methods and properties of the collection List<T>, explaining how to use them

Why do we need to use @ in front of a string when we use a path?

How can we list the directories and subdirectories in a folder? Write the methods and an example

Which kind of information is contained in DirectoryInfo? List methods and properties

Write the missing statements

```
static List<Book> BookList() //the method produces a list of books, Book is the class
    {
       List<Book> lista = new List<Book>();
       string[] books = Directory.GetDirectories(".");
       foreach (_______ _____ ___________)
       {
          string[] lines = File.___________ (_______ + @"\info.txt");
          lista.Add(new Book(lines[0], lines[1], int.Parse(lines[2]), lines[3]));
       }
       lista.Sort(SortByAuthor);
       return lista;
    }
    static int SortByTitle(Book b1, Book b2)
    {
       return ____________________________;
    }
```