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Store Data of Notebooks in a File

(Length Indicator-Based Record, Delimited Fields)

Summary:

The purpose of this program to store the data of notebooks in a file, where every notebook has the following attributes:

Field	Data type	example
ID	char [21] //max len =20	xa12345
Brand	char [21] //max len = 20	Apple
Processor desc.	char [51] //max len = 50	Intel Core i5=2.7
Operating System	char [21] //max len = 20	Mac OS X 10.10

The **file organization method** is: length indicator-based record, delimited fields.
The data is formatted as: **51** xa12345|Apple|Intel Core i5-2.7 |Mac OS X 10.10|

The available functionalities:

- **Add** new record // Always in the end of file.
- **Delete** a record // By marking the record by **(*)** → 30*----------
- **Update** a record given its **ID**, if the new record is the same size, then the insertion is in the same place, if size is changed, so I perform **delete** then **add** operations.
- **Search** for a record given its **ID**, // The used algorithm is **sequential search.**
- **CompactFile** : this function reclaims the spaces due to the many delete and the add operations //After the calling this function the file should have no deleted files at all.
- **VisualizeFile**: this function prints a visual representation of a file.

// For example, if the file contains 10 records and we deleted the records of number 5,7 and 10, so the function's output will be like this: **----*-*--***

The project is built using **C++**, **Visual Studio**.