

: *What is a flat data file?*

by Daniel J. Power

Editor, DSSResources.com

Data is stored in a number of formats. In the early years of computing, data was stored and retrieved from flat files. A flat data file or two dimensional table is an easy to use and understand format. When these files are used for data storage or data retrieval the file may be called a flat file database.

A flat file of data does not contain links, relations or dependencies to other files. There are usually no structural relationships between the rows or records. Therefore, the flat file is a non-relational database. A delimited flat file contains one or more records and data values separated from each other by a specified delimiter. An example of a flat file is a single text-only file that contains the data values needed by a specific program. The data values are separated using a delimiter like a comma or a space.

CSV ("Comma Separated Values") data files are often used to exchange data. A CSV file contains the values in a table as a series of ASCII text lines organized so that each column value is separated by a comma from the next column's value and each row starts with a new line. Depending upon the data it may be challenging avoid delimiter collision or confusion. For example, if a comma is used as a delimiter that can cause confusion if a comma is contained in a data value.

A flat file database contains only one two-dimensional table of data. A flat file database describes one way to model data, a two dimensional table. Using this data model has advantages and disadvantages. One major advantage is that a flat file database is easier to understand and setup than a traditional relational database. Also, with a software tool like Excel data stored as a table is easy to enter and retrieve. The most common problems with flat file databases include data duplication and redundancy, inaccurate data and hence low data integrity, and inefficient data processing. Flat files often perform poorly with large data sets.

An example of a flat data file is a name and address list with the fields Name, Address, and Phone Number. Relationship are not defined among fields in this flat file. A list of names, addresses, and phone numbers written by hand on a sheet of paper is consider by some as a flat file "database". An Excel worksheet with information on your collection of books or music is a flat file. A flat file can be created with Notepad or a spreadsheet may be used to implement a flat file database, which may then be printed or used online for improved search capabilities.

Author: Daniel Power

Last update: 2017-07-10 12:42