Defining Computer Files

**Introduction**

There are two types of storage, permanent and temporary. Temporary storage is lost when the program ends or the computer turns off, it is said to be volatile. Permanent storage is non-volatile, and the files can be accessed until they are deleted (Farrell, 2023).

**File types and common characteristics**

Two large categories of computer files exist. There are text files which contain information that has been encoded as text and can be read in a text editor and there are binary files which contains information that has not been encoded (Farrell, 2023). Executable files are a type of binary file. Files have common characteristics that include a filename, a filename extension, a date and time for creation or modification and the amount of space it occupies (Farrell, 2023). Some of the most common filename extensions are .txt, .jpg and .docx. There are thousands of filename extensions.

**Data Hierarchy**

Data is commonly stoered in a way that conveys the relationship between components. This is called a Data Hierarchy. The data components are characters, fields, records, and files (Farrell, 2023). Characters are letters, numbers and special symbols. This also includes spaces and tabs. Fields represent a single attribute of a record and are composed of one or more characters (Farrell, 2023). Records are groups of fields that go together for a logical reason (Farrell, 2023). Files are groups of records that are related (Farrell, 2023).

*The Data Hierarchy*

**Characters > Fields > Records > Files**

**Conclusion**

Files are part of what makes computers so useful in the modern era. They are capable of permanently storing huge amounts of data. Files can be a container for calculations performed on data. They are also a way to share information between users.

References

Farrell, J. (2023). Programming Logic and Design (10th ed.). Cengage Learning US. https://ecampus.vitalsource.com/books/9798214406763