

# Reality

## English - Reporting

### Introduction

English is an extremely powerful enquiry and reporting language with an English-like syntax that provides easy-to-use data retrieval. It is ideal for all levels of user, since it can be used to make simple enquiries almost immediately and competence can be gained rapidly. Both simple text reporting and automatically formatted HTML output is achievable.

### The Inquiry Language

English retrieves and organizes data in a way that is completely transparent to the user. A "read-write" program, written in any language, contains a multitude of instructions. Those, in turn, activate other instructions. English uses processors called verbs that activate predefined instructions. This makes English very powerful and easy to use.

An English sentence is basically a directive that selects, organizes, and outputs data. A directive, by definition, starts with a verb followed by an object and may have some qualifying clauses. For example, a natural English directive such as:

*'show me the accounts'*

...translates into an English sentence similar to the following:

**LIST LEDGER**

A more complex directive such as:

'make a copy of the accounts paid in 2007 arranged  
alphabetically by customer'

...could be set up as the following English sentence:

**LIST LEDGER WITH ACCOUNT-PAID-YR = "2007" BY CUST-NAME**

**LIST** is the English command that starts the directive. **LEDGER** is the file name. The **WITH** clause specifies which items are to be selected. **ACCOUNT-PAID-YR** is a user specified dictionary definition of the file that yields the number of the year in which an account was paid. The word **BY** begins a sort clause.

In the English environment, the verb is a processor that acts on the contents of a specified file. Data is stored in an internal format that may not be suitable for a report. Specifically, dates are stored in an internal format that requires translation. This type of data is converted to an external format through codes in the data dictionary definition items, which specify the conversions to be done.

Conversion codes can also be used to manipulate data by, for example, performing mathematical functions, concatenating fields, or extracting specific data from a field or from another file.

The verb and a file name are mandatory. The subsequent phrases are optional.

### Optional phrases, clauses... include the following:

- File modifiers
- Database Item list
- USING alternate dictionary clause
- Selection criteria
- Collation: sort and output selection
- Output options
- Printing device options
- GENML HTML report processing command
- SQL-VIEW setup for access to foreign relational databases

The verb must be the first word in the English sentence. Unless otherwise noted, all other components of an English sentence can be entered in any order.

### The Dictionary

The dictionary contains definitions of the data in associated data files. These definitions create a correspondence between the name(s) of an attribute (otherwise known as a line or field) within data items and their position (line or attribute number) and processing or formatting that needs to be applied to that data. The attribute name is specified within the English sentence in order to refer to the corresponding piece of data.

DataBasic subroutines can be called using the dictionary CALL conversion code in order to allow access to additional features.

Dictionary items and processing codes (known as conversion codes) are described in *File and Data Definition Items*, *Conversion Codes* and *Macros* in the On-Line Documentation.

## Summary of English Features

English provides the following capabilities:

- Commands based on the normal English sentence structure.
- Retrieval is always via a specified file. Data from other files can be accessed by setting up 'translate conversions' within data definition items in the dictionary in use.
- In the absence of a specific data definition item in the dictionary in use, the Master Dictionary of the account from which the command is executed is accessed.
- Sorting of data in ascending or descending order.
- Selection criteria that may include explicit or implicit item lists, logical connectives (AND/OR), relational operators, and literals.
- User-specified formatted output including statistical information by section, totals and grand totals.
- Stored data can be translated to a desired external format and manipulated through conversion codes in the associated data definition items.
- Dictionary Subroutines allow you to call DataBasic program subroutines from within the English conversion attributes of file and data definition items. Refer to the CALL conversion code.

## Fully Exemplified, easy to learn...

English examples and a *Beginners' Guide* can be found in the On-Line Documentation. Also refer to the "*ENGLISH Tutorial, a RealWeb Demonstration*" that is loaded for the Windows platform Evaluation [Demo] install.