SW8200

Data Base Package

RESUME

A tool for the design, implementation, and application of data bases is found in the Data Base Package, which provides a simple system that is both easy to use and high in performance. These are some of the features of this package:

- The system administers indexed sequential and linked list backing-storage files.

- Records are accessed directly by logical keys or sequentially via logical pointer chains.

- Chains and pointers are protected, also against the application program.

- Both hierarchical and network file structures can be described.

- The number of member types for a given owner is unlimited, as is the number of owner types for a given member.

- The complexity of depth of multiple (cascaded) owner-member relationships is unlimited.

DESCRIPTION

The Data Base Package comprises a set of external ALGOL procedures, called the Connected Files System, which enables ALGOL programs to create and process two kinds of backing-storage files, viz. master files and list files.

The master file is a sequential file, which is augmented by two levels of index tables. This structure permits individual records to be accessed directly by user-defined keys and the whole file to be processed sequentially.

The records in master files contain one or more protected daughter-reference fields, each with the first record number in a chain in a connected list file.

Master files typically contain data concerning entities in the user systems, e.g. products, orders, and accounts.

The list file is a sequential file, in which the records are linked together in groups by means of pointer chains. This structure permits individual records to be accessed directly by system-generated record numbers or sequentially by traversing a record chain.

The sequence is determined by pointer fields, which enable each record to define the next record in all of the chains of which it is a member. Each chain starts in a mother record in a mother file (master or list file) and continues in one or more daughter records in a separate and subordinate daughter file (always a list file).

The records in list files contain one or more protected pointer fields, each with the next record number in the chain and the key or record number of the mother record. If the record is itself a mother record, one or more protected daughter-reference fields are also included.

List files typically contain additional data on entities in the user system and may also express a relationship between such entities.

SOFTWARE PREREQUISITES
SW8001 Basic System Package (datasheet RCSL 42-i 1275).
SW8010 System Utility Package (datasheet RCSL 42-i 1276).
SW8500 ALGOL Package (datasheet RCSL 42-i 1293).