The Young! History of Database Systems...
$ SET SOURCEFORMAT 'FRE'  
IDENTIFICATION DIVISION,  
PROGRAM-ID. SupFile.  
AUTHOR. Michael Coulahan.  
* Creates a relative file from a sequential file.  

ENVIRONMENT DIVISION.  
INPUT-OUTPUT SECTION.  
FILE-COMMENTS.  
SELECT SupplierFile ASSIGN TO 'REL.SUPP.DAT'  
    ORGANIZATION IS RELATIVE  
    ACCESS MODE IS RANDOM  
    RELATIVE KEY IS SupplierKey  
    FILE STATUS IS SupplierStatus.  
SELECT SupplierFileSeq ASSIGN TO 'SEQ.SUPP.DAT'  
    ORGANIZATION IS LINE SEQUENTIAL.  

DATA DIVISION.  
FILE SECTION.  
FD SupplierFile.  
   01 SupplierRecord.  
      02 SupplierCode PIC 99.  
      02 SupplierName PIC X(20).  
      02 SupplierAddress PIC X(50).  
FD SupplierFileSeq.  
   01 SupplierRecordSeq.  
      88 EndOfFile VALUE HIGH=VALUES.  
      02 SupplierCodeSeq PIC 99.  
      02 SupplierNameSeq PIC X(20).  
      02 SupplierAddressSeq PIC X(50).  

WORKING-STORAGE SECTION.  
   01 SupplierStatus PIC X(2).  
   01 SupplierKey PIC 99.  

PROCEDURE DIVISION.  
READ SupplierFileSeq  
   AT END SET EndOfFile TO TRUE  
   END-READ  
PERFORM UNTIL EndOfFile  
   MOVE SupplierCodeSeq TO SupplierKey  
   MOVE SupplierRecordSeq TO SupplierRecord  
   WRITE SupplierRecord  
   INVALID KEY DISPLAY 'Supplier status = '  
   SupplierStatus  
   END-READ  
READ SupplierFileSeq  
   AT END SET EndOfFile TO TRUE  
   END-READ  
   END-PERFORM.  
CLOSE SupplierFile, SupplierFileSeq.  
STOP RUN.
$ SET SOURCEFORMAT'FREE'
IDENTIFICATION DIVISION.
PROGRAM-ID. SeqRel.
AUTHOR: MICHAEL COUGHLAN.
* Creates a Relative file from a sequential file.

ENVIRONMENT DIVISION.
INPUT-OUTPUT SECTION.
FILE-COMPUTATION.
   SELECT SupplierFile ASSIGN TO 'RELSUPP.DAT'
   ORGANIZATION IS RELATIVE
   ACCESS MODE IS RANDOM
   RELATIVE KEY IS SupplierKey
   FILE STATUS IS SupplierStatus.

   SELECT SupplierFileSeq ASSIGN TO 'SEQSUPP.DAT'
   ORGANIZATION IS LINE SEQUENTIAL.

DATA DIVISION.
FILE SECTION.
FD SupplierFile.
  01 SupplierRecord.
hierarchical DBMS
navigational DBMS
no physical data independence!
Codd invents Relational Model
„Codd made relations,

... all else
is the work of man.“
Research Projects
IBM DB2
Oracle
Object-relational DBMS
= relational DBMS + object extensions
Object-oriented DBMS
= real object-oriented DBMS
parallel
Web
OLAP =
OnLine
Analytical
Processing
<XML/>
data stream management
Column Stores
<table>
<thead>
<tr>
<th>name</th>
<th>street</th>
<th>city</th>
</tr>
</thead>
<tbody>
<tr>
<td>peter</td>
<td>narrowstreet</td>
<td>new york</td>
</tr>
<tr>
<td>steve</td>
<td>macstreet</td>
<td>cuppertino</td>
</tr>
<tr>
<td>mike</td>
<td>longstreet</td>
<td>saarbruecken</td>
</tr>
</tbody>
</table>
NoSQL
Big Data
1 MB
1 TB
(actually does not fit on screen)
MapReduce
Analytics
1,700,000,000?
IBM
acquiring
Netezza
263,000,000?
Teradata acquiring Aster Data
HP acquiring Vertica
Teradata acquiring Kickfire
Ingres acquiring VectorWise
Software AG acquiring RTM
EMC acquiring Greenplum
Cisco acquiring Truviso
acquiring
to be continued...
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%C3%B6m4WDBeetle1985.jpg
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Heikenwaelder Hugo
http://commons.wikimedia.org/wiki/File:WW-Vincent.jpg
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M93
http://commons.wikimedia.org/wiki/File:WW_Beetle_1.4_TSI_Sport_%E2%80%93_Frontansicht,_3_M%C3%A4rz_2013,_D%C3%BCsseldorf.jpg
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