CHAPTER 3: DATABASE TABLES
Visual FoxPro Objects

Visual FoxPro is an object-oriented (OO) relational database management system (DBMS). There are many object:

- Table
- Query
- Database
- View
- Form
- Report/Label
Visual FoxPro Objects

Table
- Tables are basic units of a RDBMS. Each table is one entity. Tables contain rows (records) and columns (fields).

Query
- To organize information for a report.
- To answer a quick question.
- To see any relevant subset of your data.

Database
- Add tables, queries and many other objects to a database.
Visual FoxPro Objects

Report, Label
- To display your data in a variety of ways on the printed page.

Form
- To display data to users and allow them to input data using a screen of your own design.

View (local view)
- Different views should be created for different users. Data privacy can be maintained.
### Database Tables - Data Type

<table>
<thead>
<tr>
<th>Type</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Character</td>
<td>Store text information such as names, addresses and numbers that are not used in mathematical calculations.</td>
</tr>
<tr>
<td>Currency</td>
<td>Use the Currency data type instead of numeric for Monetary value.</td>
</tr>
<tr>
<td>Date</td>
<td>Store dates without time values.</td>
</tr>
<tr>
<td>DateTime</td>
<td>A DateTime value is stored in eight bytes, two four-byte integer. The first four bytes represent the date. The remaining four bytes represent the time in milliseconds from midnight. DateTime values can contain both date and a time, or only a date or only a time.</td>
</tr>
<tr>
<td>Double</td>
<td>Use Double data instead of Numeric when you need more accuracy, a fixed amount of storage in your table, or true floating-point values.</td>
</tr>
</tbody>
</table>
### Database Tables- Data Type

<table>
<thead>
<tr>
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<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Float</td>
<td>For scientific data.</td>
</tr>
<tr>
<td>Logical</td>
<td>True or false.</td>
</tr>
<tr>
<td>General</td>
<td>Contains a ten-byte reference to the actual contents of the field: a spreadsheet, a word processor document, or a picture, created by another application. The actual type and amount of data, however, depends on the OLE server that creates the object and whether you link or embed the OLE object. If you link an OLE object, your table contains only the reference to the data and to the application that create it. If you embed an OLE object, the table contains a copy of the data as well as a reference to the application that created it. The size of a General field is limited only by the amount of available disk space.</td>
</tr>
</tbody>
</table>
# Database Tables- Data Type

<table>
<thead>
<tr>
<th>Type</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numeric</td>
<td>Numeric values contain digits from 0 to 9, and optionally, a sign and a decimal point.</td>
</tr>
<tr>
<td>Integer</td>
<td>Non-decimal numeric values when performance and table storage limitations are especially important.</td>
</tr>
<tr>
<td>Memo</td>
<td>Contains a ten-byte reference to the actual contents of the memo. The actual size of memos, however, depends on the amount of data you enter into them. Data from Memo fields of records in a table are stored in a separate file with the same name as the table and an .FPT extension. Memo fields are limited only by the amount of available disk space.</td>
</tr>
</tbody>
</table>
You can create tables in Visual FoxPro by two methods:

- Table Wizard, which provides some table templates.
- Define date types of each field manually.
Select one of the tables provided and fields need.
Database Tables- Table Wizard

- Determine it is a free table or add it into a database.
Modify the data type of each field when necessary.
Database Tables - Table Wizard

- Specify the index key.

![Database Table Wizard Interface](image)
Database Tables - Table Wizard

- Finish, finalize (or preview) the table.
Database Tables- Manual Design

- Provide a filename for the new table and specify the working directory.
Database Tables- Manual Design

- Use Table Designer to add fields and corresponding index key.
Database Commands

Command Window

- The Command window is a Visual FoxPro system window. When you choose menu commands, Visual FoxPro language commands are echoed in the Command window. You can also type Visual FoxPro commands directly into the Command window. In the Command window, you can:

- Re-issue a previous command by placing the cursor anywhere on the command line, and then pressing ENTER.
Database Commands

Command Window (Cont’d)

- Re-issue a block of code by selecting it, and then pressing ENTER.
- Split lengthy commands by typing a semicolon (;) after a space in the command where you want it to break, and then press ENTER.
- Move text within the Command window and to other editing windows. Select the desired text and drag it to the desired spot.
Database Commands

CREATE [filename]
- Builds a new Visual FoxPro table.
- CREATE student.dbf

MODIFY STRUCTURE
- Displays the Table Designer, allowing you to modify the structure of a table.

BROWSE
- Opens the Browse window and displays records from the current or selected table.

EDIT
- Displays fields for editing.
Database Commands

**USE**
- If USE is issued without a table name and a table file is open in the currently selected *work area*, the table is closed. Also, a table is closed when another table is opened in the same work area.

**USE [filename] [IN nWorkArea]**
- Opens a table and its associated index files.
- USE students IN 1, USE exam IN 2

**CLOSE [ALL]**
- Closes currently open object.
- Closes ALL open objects and selects work area 1.
END