

CS 405/605 A Sample of Small Database Design Using Microsoft Access

I use part of the Company relational database schema in our textbook to illustrate this sample.

Relational Schema

Employee

FName	LName	<u>SSN</u>	Salary	SuperSSN	DNO
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Department

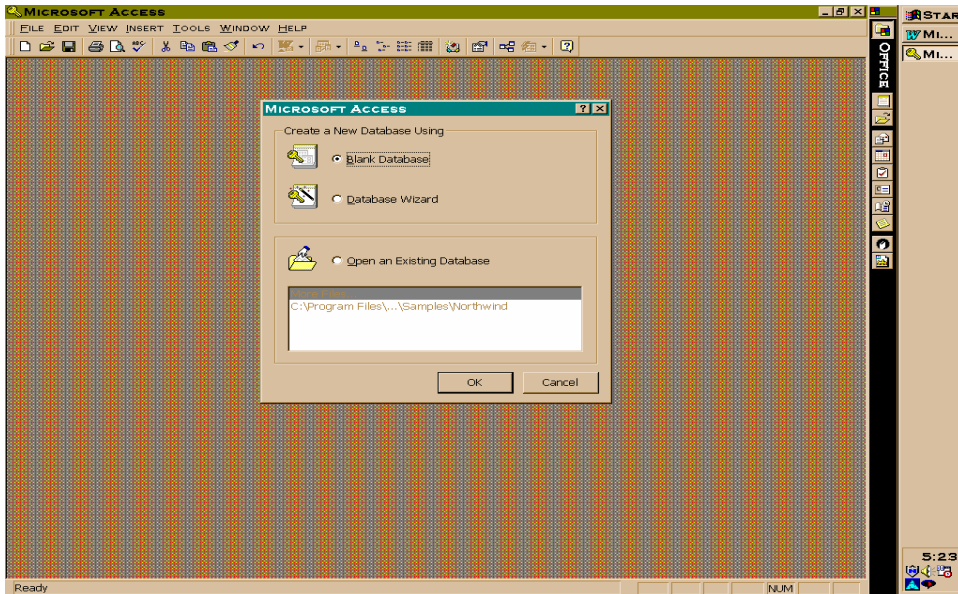
DName	<u>DNumber</u>	MgrSSN
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Dependent

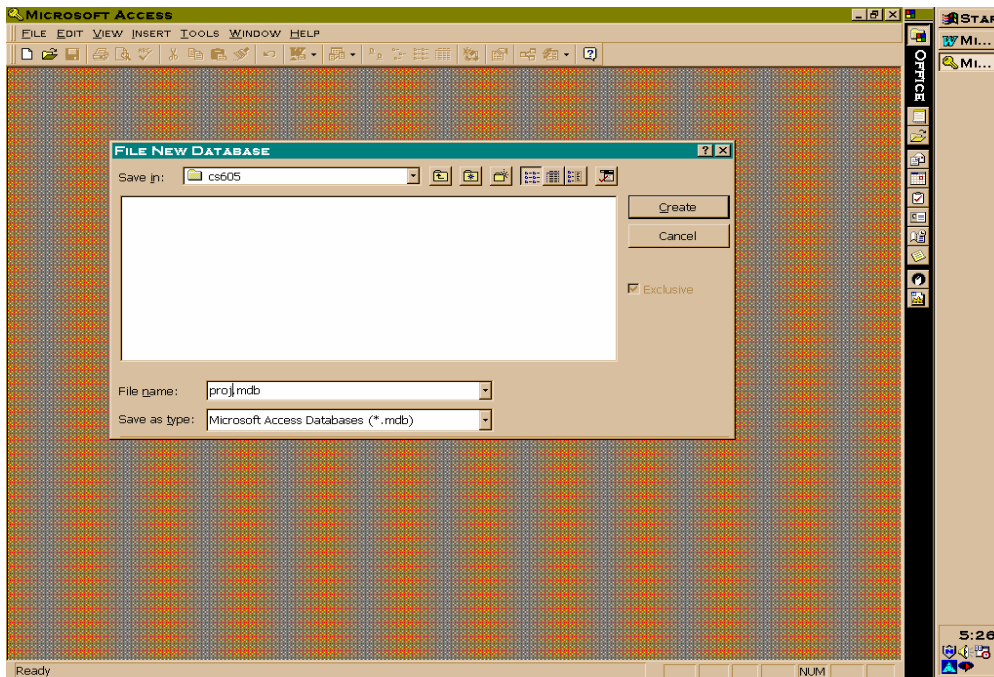
<u>ESSN</u>	<u>DependentName</u>	Sex
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Creating a New Database

To create a new database, you can choose either Blank Database or Database Wizard as you invoke Microsoft Access program. I select Blank Database for this example.

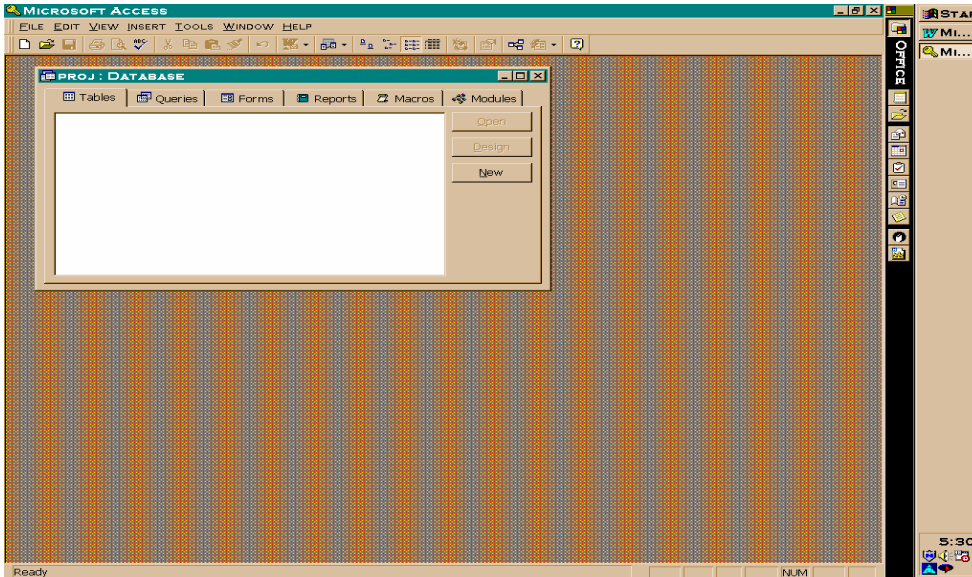


When the File New Database window appears, you type the name of database in the File name box and click on the Create button. The name of this sample database is proj.mdb.

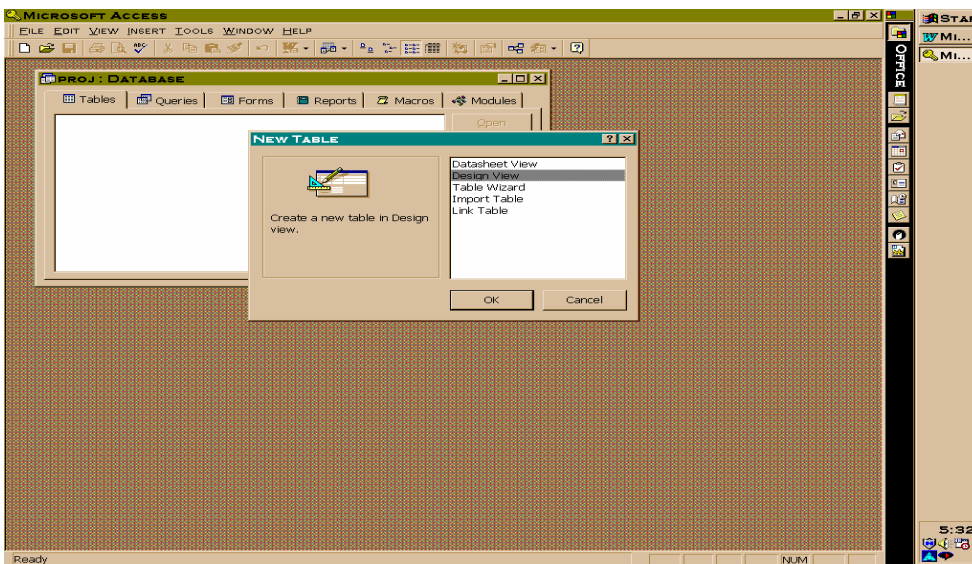


Creating New Tables

After clicking the Create button on the File New Database window, the following window will appear. To create a new table, you click the Tables option and then the New button.

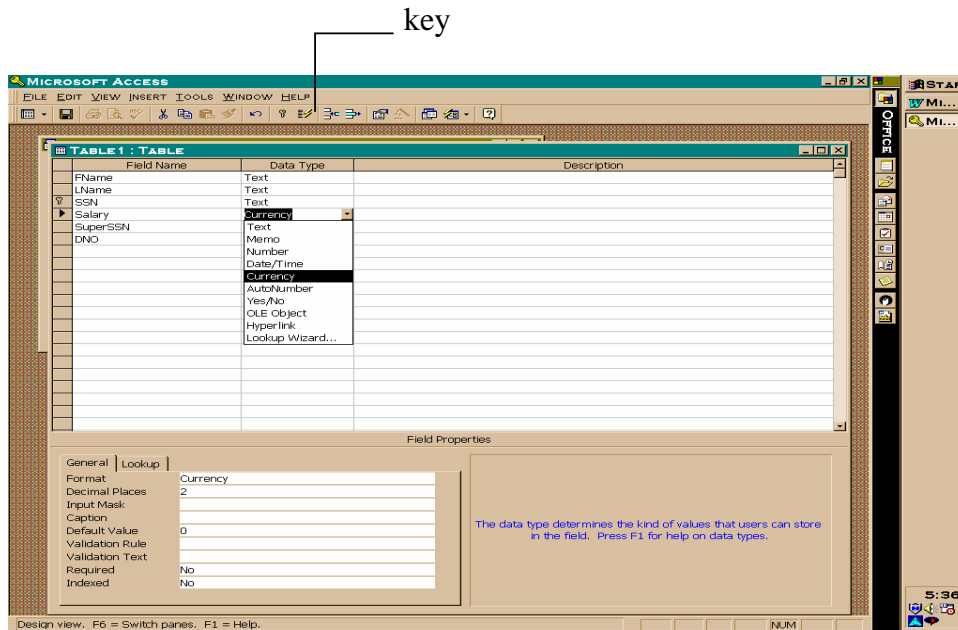


You select Design View and then click the Ok button when the New Table dialog window appears.

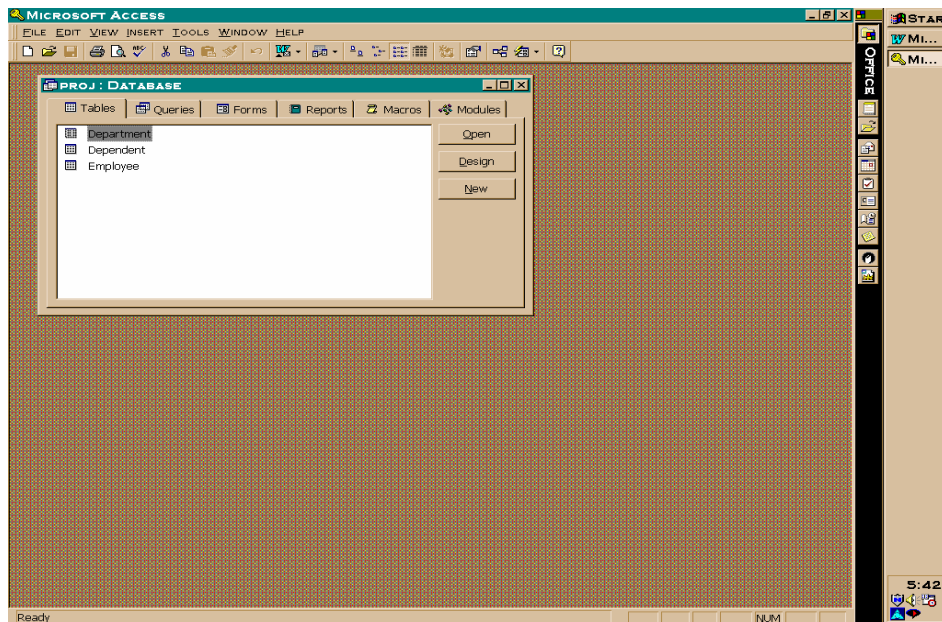


Next, you can enter the table definitions as an empty table template shows on the screen. The table shown below is the Employee table in the relational schema. The attributes of the Field Name should match with the attributes of the corresponding table in the relational schema. The Data Type has drop-down menu as shown below. To declare the key, you highlight the desired attribute(s) and click the key button on the toolbar.

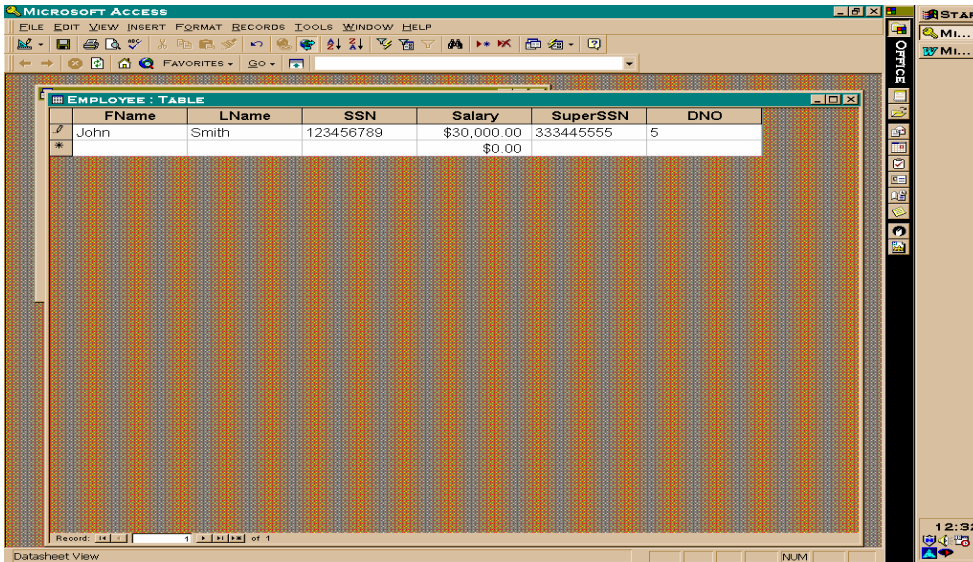
You can take the same steps to create the other tables.



Once you have finished creating all the tables, you can now enter data for each table by highlighting the name of the table and then clicking the Open button.

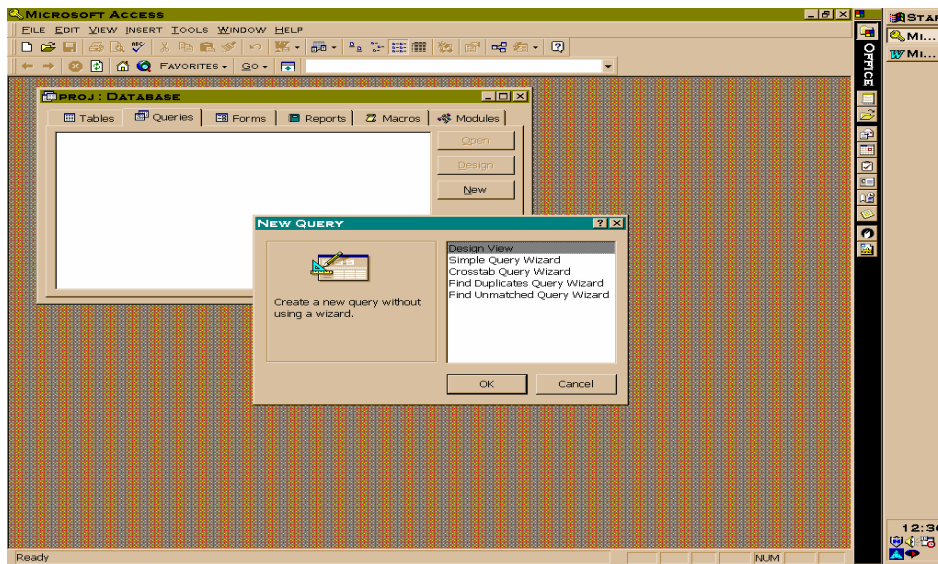


Here you can start entering data row by row in the Employee table.

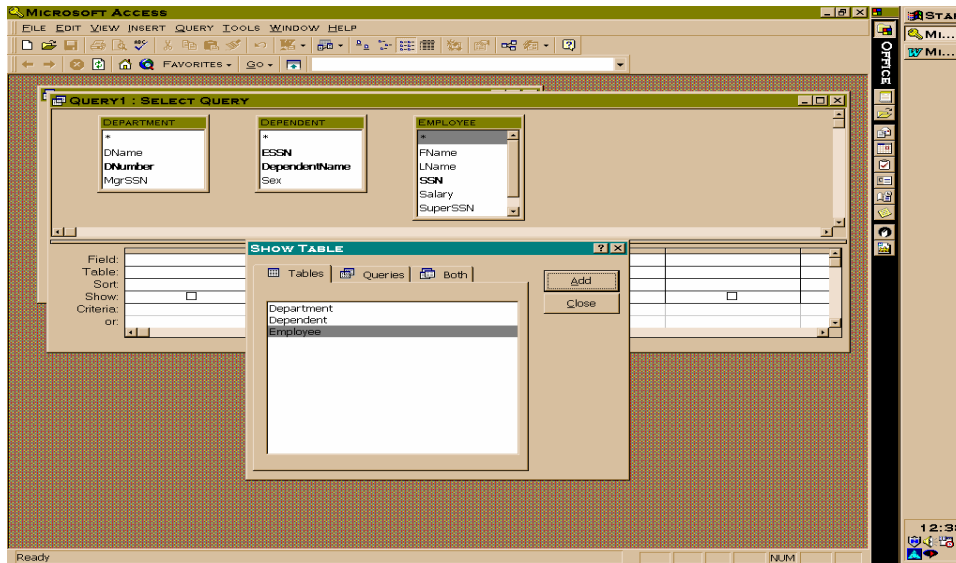


Writing Queries

To start writing queries, you click the Queries option and then the New button. The Design View is selected when the New Query dialog window shows. The Simple Query Wizard may be selected for simple queries.

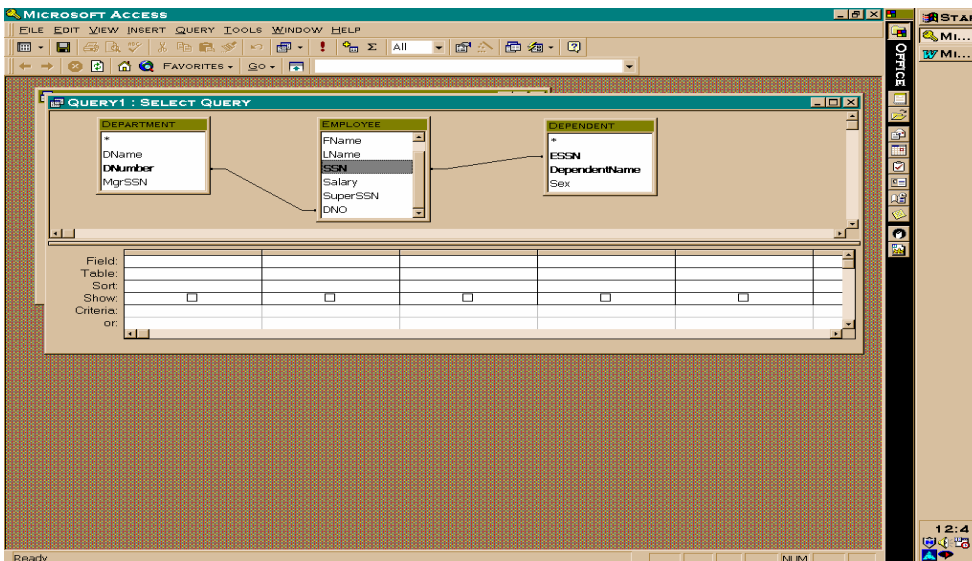


Before you begin writing queries, you need to specify the referential integrity constraints first. When the Show Table window appears, you click the Tables option and select a table by clicking the **A**dd button. Once you have finished selecting all the tables, which will appear on the Select Query window, you can close the Show Table window by clicking the **C**lose button. Note that all the keys are in bold.

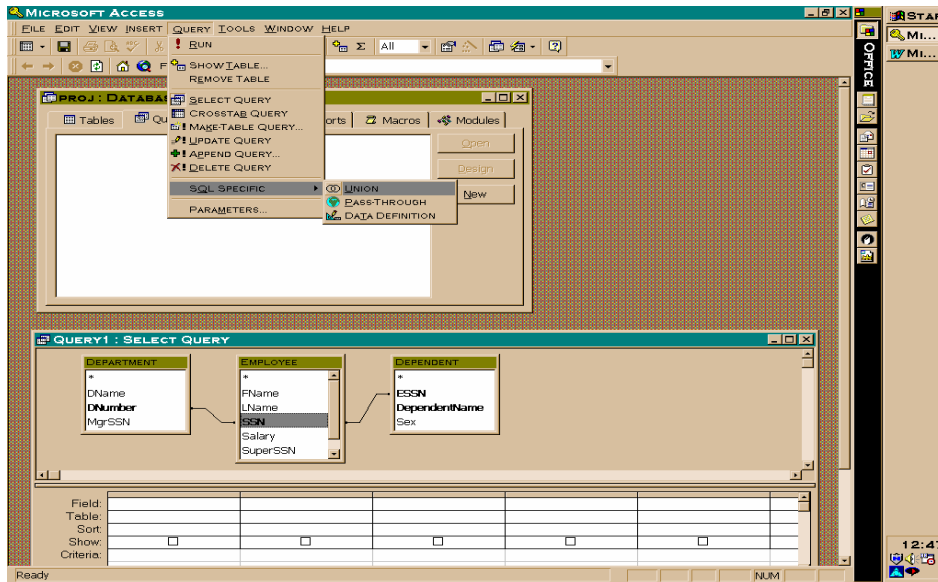


You specify the referential integrity constraint between two relations by dragging the key attribute of one table (e.g. SSN in Employee table) to the foreign key attribute of the other table (e.g. ESSN in Dependent table). A line connecting the two attributes will appear on the screen.

You need to state the referential integrity constraints for the given relational schema once only.

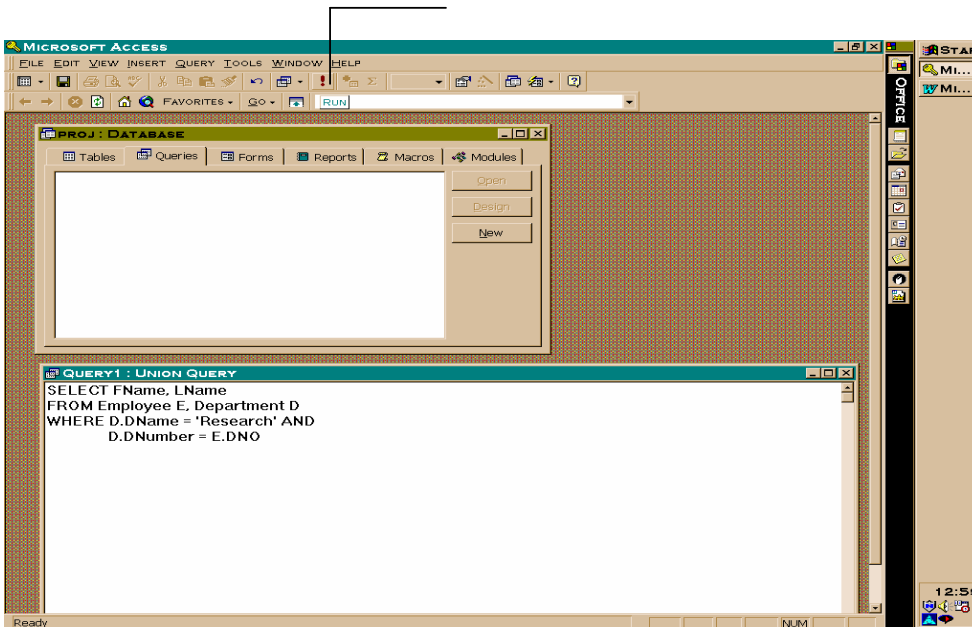


You start writing a query by clicking the Query button on the Menu bar. A drop-down menu list will appear. You simply select SQL Specific and then Union.

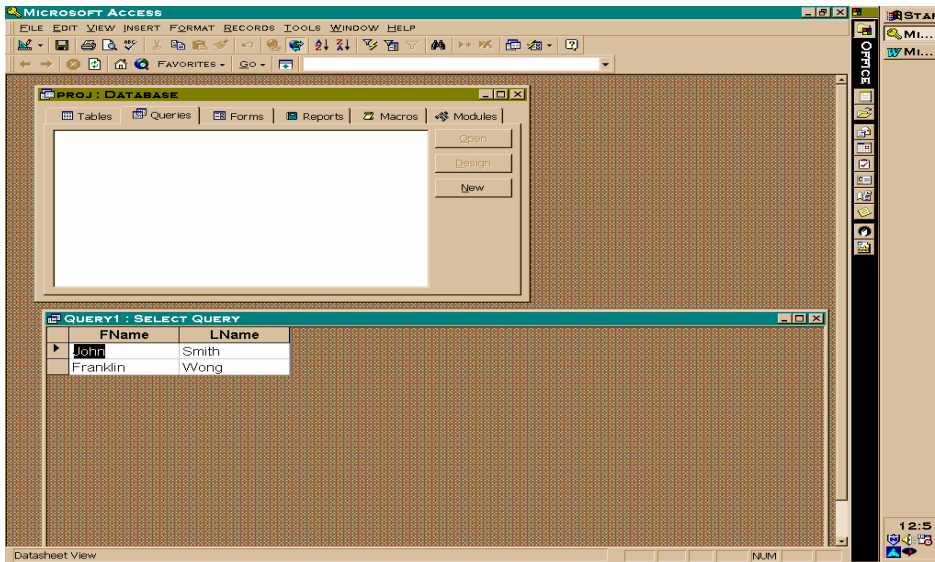


You write the query on the provided template as shown below. To run the query, you click the ! button on the Toolbar. I use a simple query as an illustration.

Run button



You can see the query result on the screen once you run the query.



Here is another query example.

