

Microsoft Access 2007



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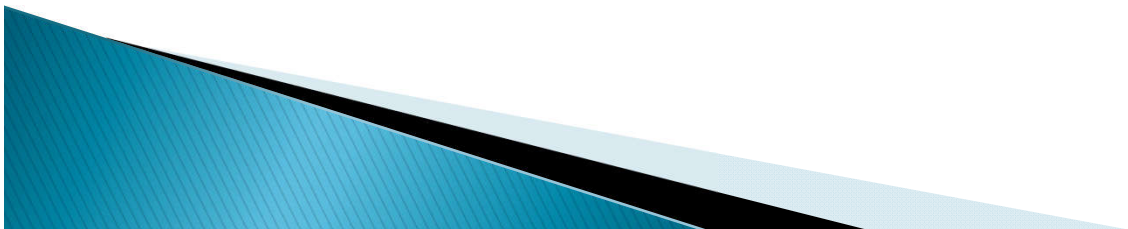
Outlines

- ▶ Creating Table
- ▶ Entering/Editing Data
- ▶ Importing Data from other source
- ▶ Creating Query

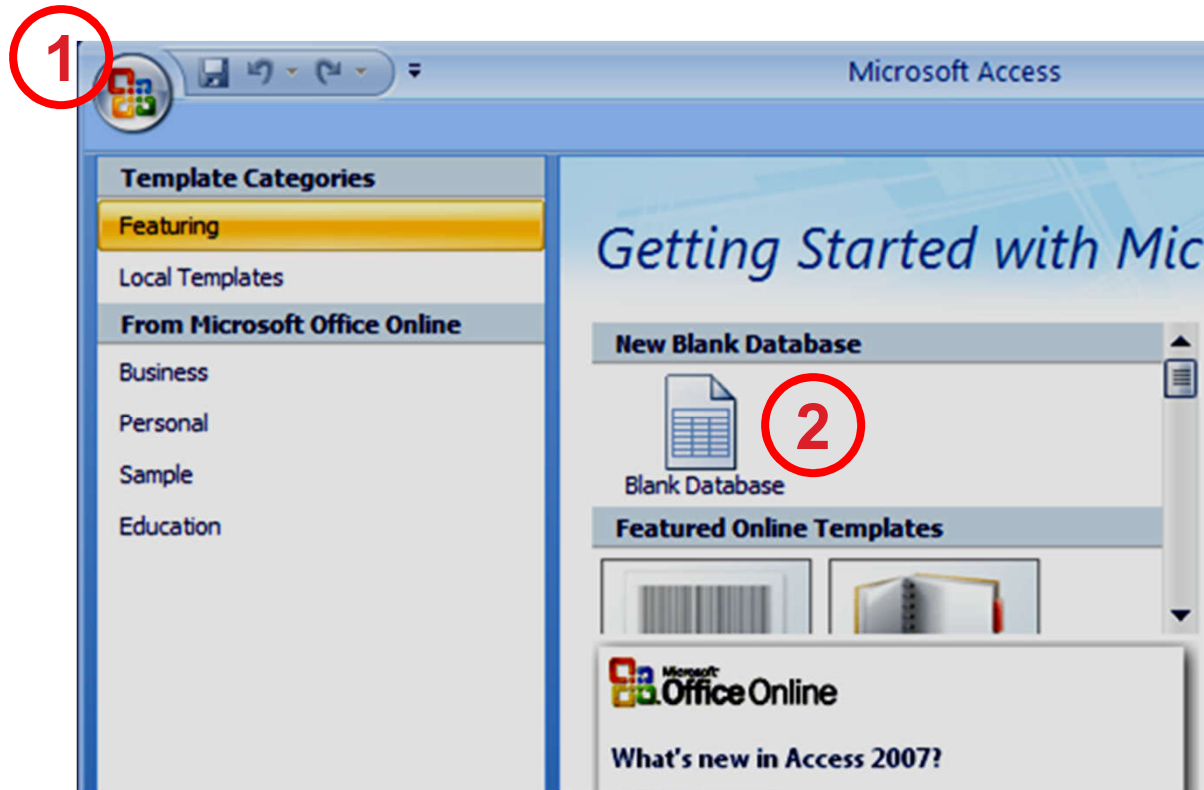


Before You Start

- ▶ Download the following files from the course webpage:
 - 13_Students_en.accdb (@ <https://goo.gl/YKyvQi>)
 - dataforaccesslab_01_en.xlsx
 - dataforaccesslab_02_en.xlsx



Creating a New Database



1. Click the Office Button
2. Select *Blank Database*

Creating a New Database (2)

3. Name your database
4. Select a folder to save the database
5. Click *Create* to create the database.

Blank Database

Create a Microsoft Office Access database that does not contain any existing data or objects.

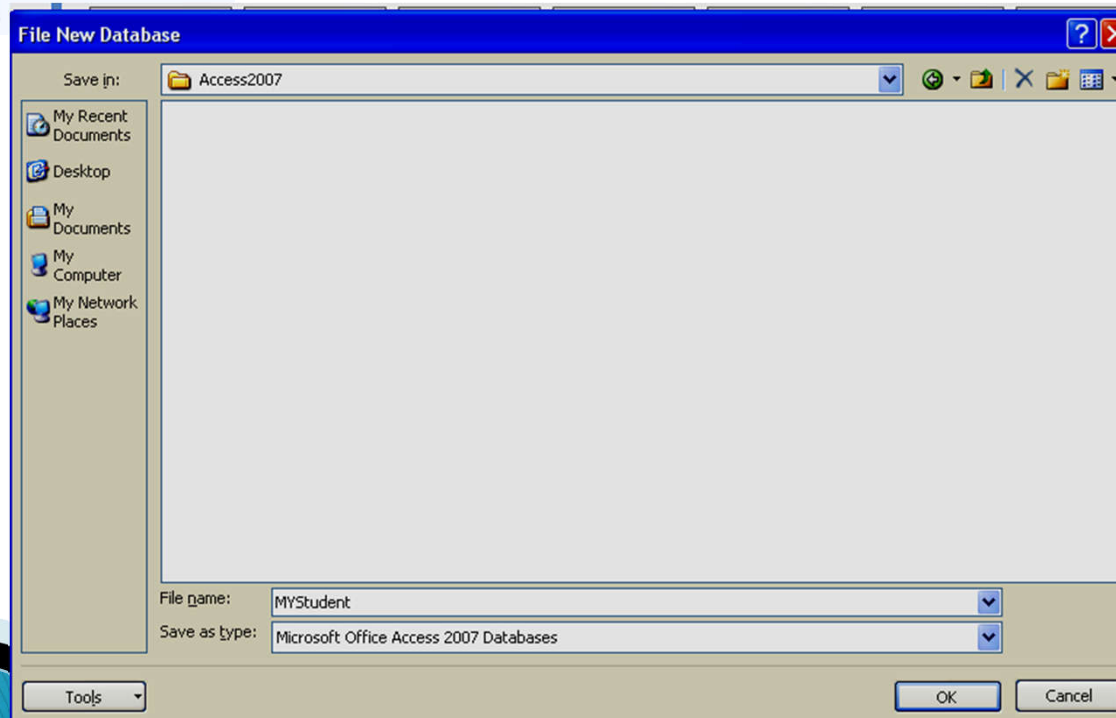
File Name:

Database1

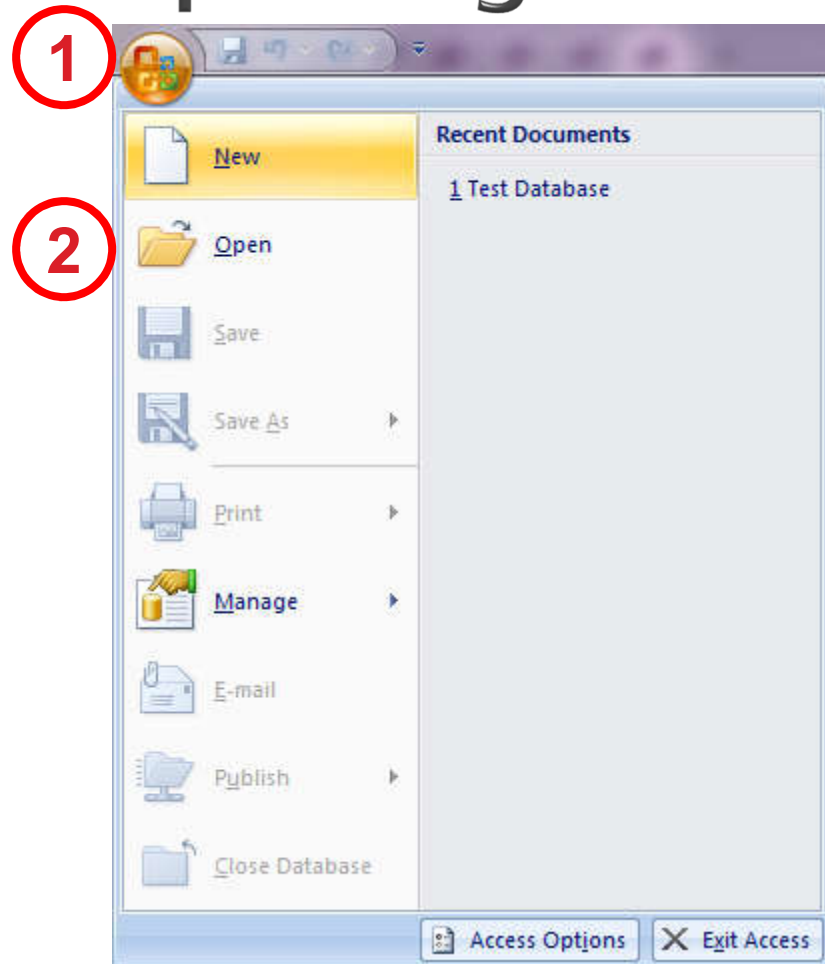
C:\Users\CSB307\Documents\

Create

Cancel



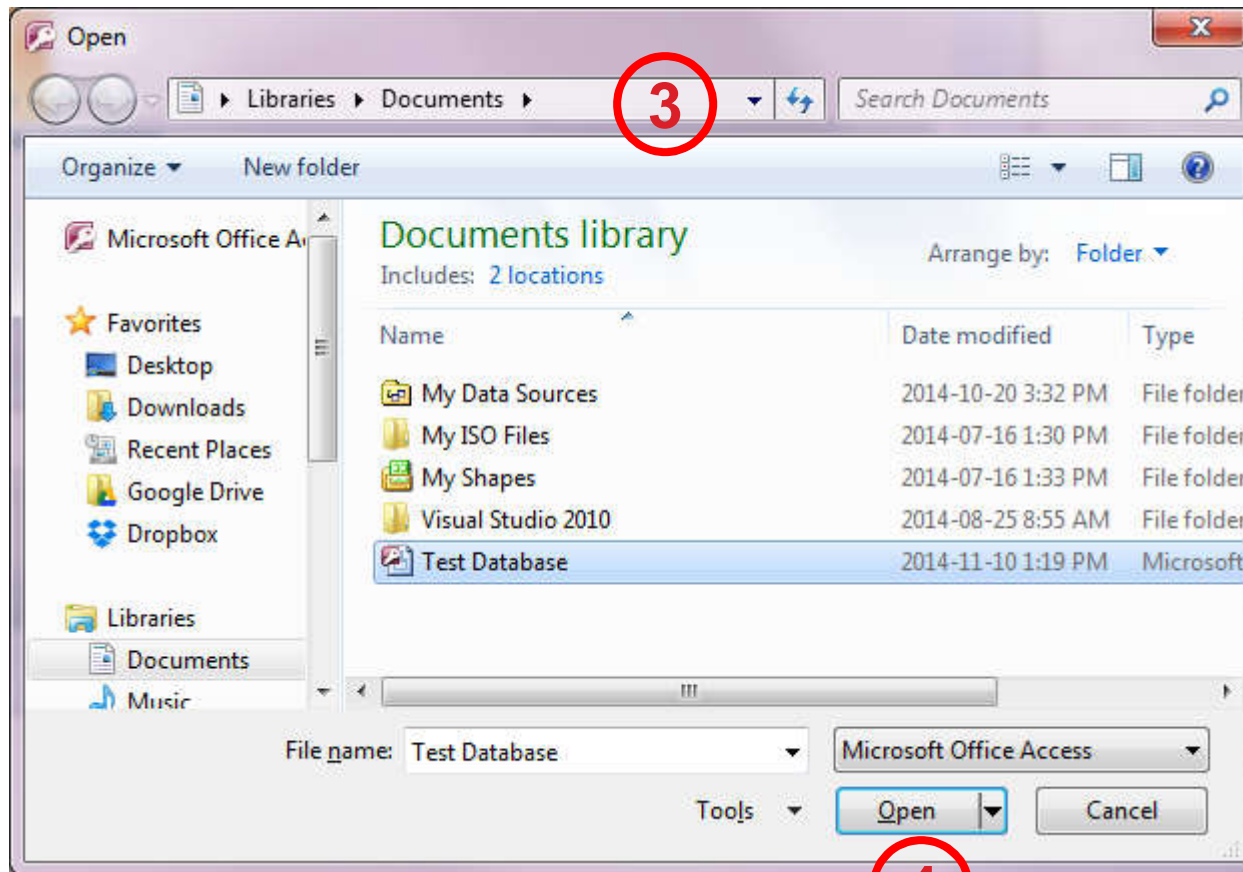
Opening an Existing Database



1. Click the Office Button
2. Click *Open*

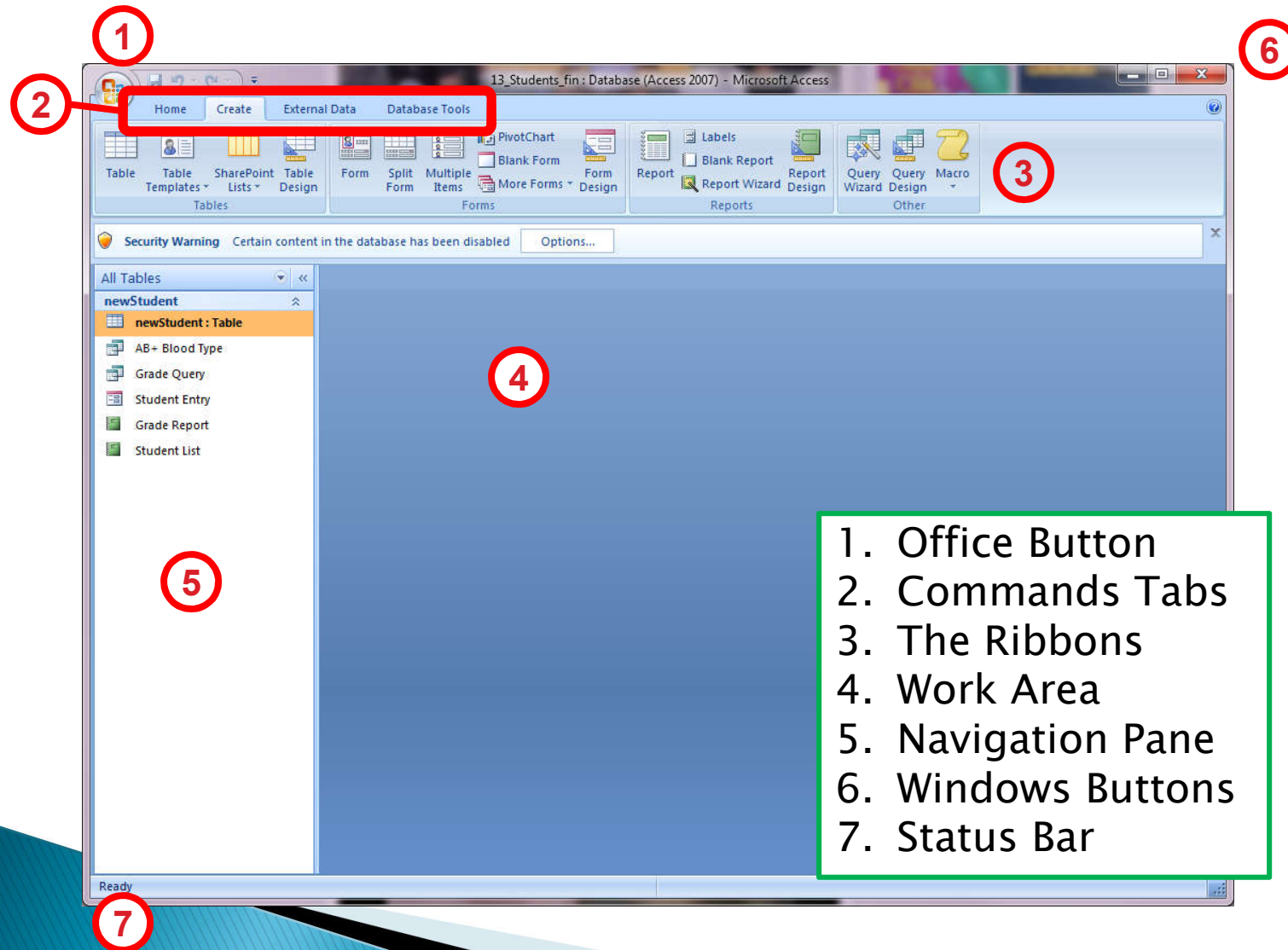
Opening an Existing Database (2)

3. Select folder, then select database file

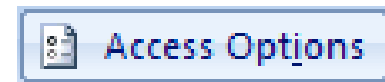


4. Click *Open*.

Microsoft Access Interface



Changing Font Size



Datasheet

Access Options

General

Current Database

Datasheet

Object Designers

Proofing

Language

Client Settings

Customize Ribbon

Quick Access Toolbar

Add-ins

Trust Center

Customize the way c

Gridlines and cell effects

Default gridlines showing

☒ Horizontal

☒ Vertical

Default cell effect

☒ Flat

☐ Raised

☐ Sunken

Default column width: 1"

Default font

Size: 11

Weight: Normal

☐ Underline

☐ Italic

Query Design

Access Options

General

Current Database

Datasheet

Object Designers

Proofing

Language

Client Settings

Customize Ribbon

Quick Access Toolbar

Add-ins

Trust Center

Change the default settings for des
datasheet and layout view.

Table design view

Default field type: Text

Default text field size: 255

Default number field size: Long Integer

AutoIndex on Import/Create: ID;key;code;num

☒ Show Property Update Options buttons

Query design

☒ Show table names

☐ Output all fields

☒ Enable AutoJoin

Query design font

Font: Segoe UI

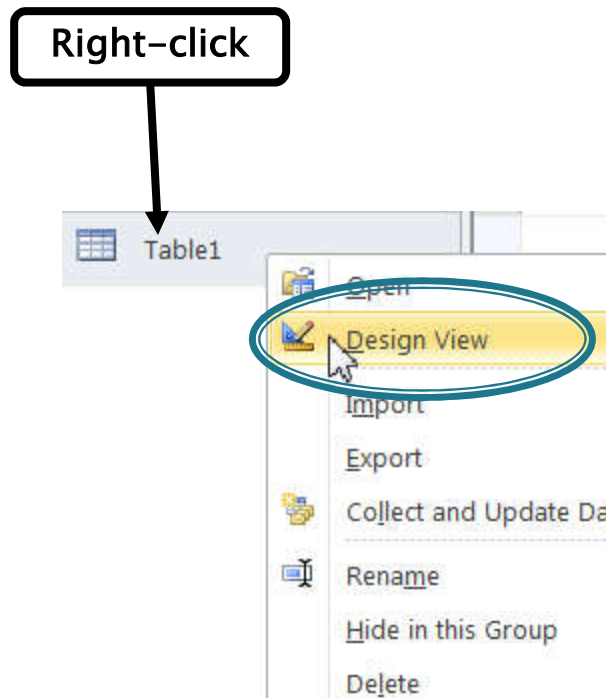
Size: 14

SQL Server Compatible Syntax (ANSI 92)

☐ This database

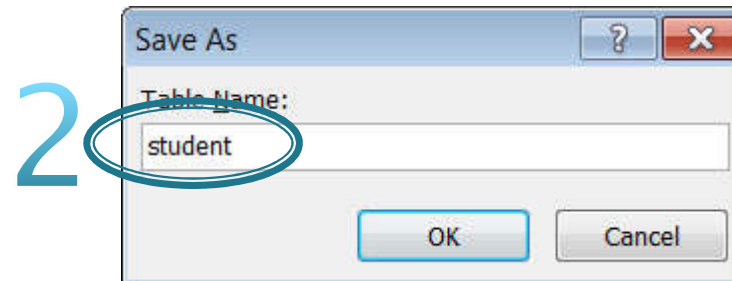
☐ Default for new databases

Your First Table



- ▶ Right Click on Table1 →
Design View

- ▶ Select Table Name



Data Type [1]

- ▶ The default field is “ID” with **AutoNumber** “Data Type”

student	
Field Name	Data Type
ID	AutoNumber

Data Type	
AutoNumber	▼
Text	
Memo	
Number	
Date/Time	
Currency	
AutoNumber	
Yes/No	
OLE Object	
Hyperlink	
Attachment	
Calculated	
Lookup Wizard...	

Data Type [2]

DATA TYPE	PURPOSE
Text	Use to store up to 255 characters of text, such as a last name or a street address.
Memo	Long blocks of text. A typical use of a Memo field would be a detailed product description.
Number	Use to store a numeric value that isn't a monetary value, such as distances. If you might use the values in the field to perform a calculation, use the Number data type.
Date/Time	Use to store time-based data. Date and Time values for the years 100 through 9999.
Currency	Use to store monetary data.
AutoNumber	Provide a unique value that serves no other purpose than to make each record unique
YES/NO	Yes and No values and fields that contain only one of two values. (Boolean)

Data Type [3]

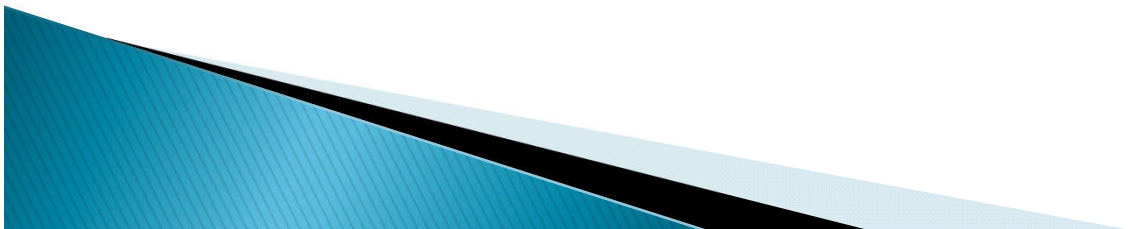
DATA TYPE	PURPOSE
OLE Object	Use to attach an OLE Object, such as a Microsoft Office Excel spreadsheet, to a record. In most cases, you should use an Attachment field instead of an OLE Object field. (More file types and multiple files supported)
Hyperlink	Use to store a hyperlink, such as an e-mail address or a Web site URL.
Attachment	Use an attachment field to attach multiple files, such as images, spreadsheet files, documents, charts, and other types of supported files to the records in your database, similar to attaching files to e-mail messages. Multiple files per record supported.
Calculated	Results of a calculation. The calculation must refer to other fields in the same table. You would use the Expression Builder to create the calculation.
Lookup	Displays either a list of values that is retrieved from a table or query, or a set of values that you specified when you created the field. The Lookup Wizard starts and you can create a Lookup field. The data type of a Lookup field is either Text or Number, depending on the choices that you make in the wizard.

Data Type [4]: Number

FIELD SIZE	PURPOSE
Byte	Use for integers that range from 0 to 255. Storage requirement is 1 byte.
Integer	Use for integers that range from -32,768 to 32,767. Storage requirement is 2 bytes.
Long Integer	Use for integers that range from -2,147,483,648 to 2,147,483,647. Storage requirement is 4 bytes.
Single	Use for numeric floating point values that range from -3.4×10^{38} to 3.4×10^{38} and up to seven significant digits. Storage requirement is 4 bytes.
Double	Use for numeric floating point values that range from -1.797×10^{308} to 1.797×10^{308} and up to fifteen significant digits. Storage requirement is 8 bytes.
Decimal	Use for numeric values that range from $-9.999... \times 10^{27}$ to $9.999... \times 10^{27}$. Storage requirement is 12 bytes.

Defining Data Types

- ▶ Look at the excel file “dataforaccesslab_01_en.xlsx” and the slide.
- ▶ What data type should be assigned to each field?

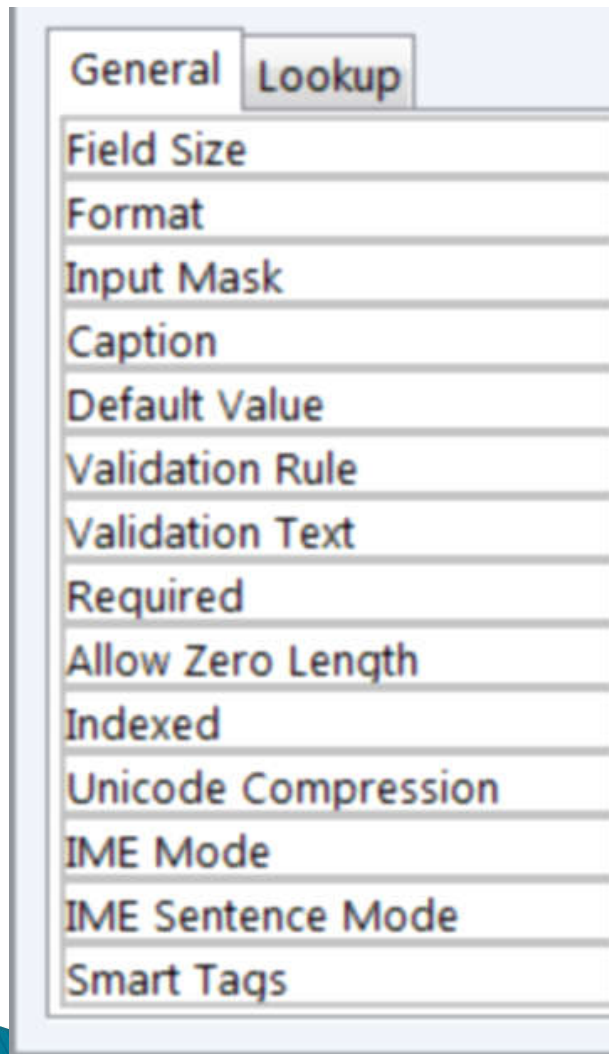


Defining Data Types

Field Name	Data Type	Field Size
student_id	Text	9
title	Text	20
first_name	Text	20
last_name	Text	20
birth_date	Date/Time	
gpa	Number	Single
blood_type	Text	2
pet	Text	10
allowance	Number	Long Integer

Field Properties

- ▶ Field Size
- ▶ Format
- ▶ Default Value
- ▶ Required
- ▶ Allowed Zero Length
- ▶ Indexed

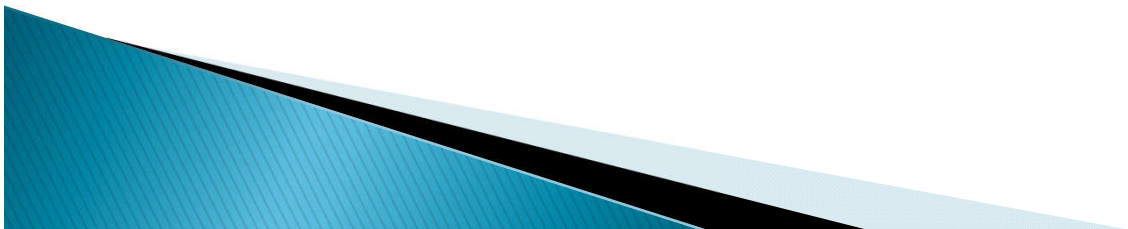


The image shows a screenshot of a 'Field Properties' dialog box, specifically the 'Lookup' tab. The dialog box has two tabs: 'General' and 'Lookup'. The 'Lookup' tab is selected. Below the tabs is a list of properties, each with a corresponding input field. The properties listed are: Field Size, Format, Input Mask, Caption, Default Value, Validation Rule, Validation Text, Required, Allow Zero Length, Indexed, Unicode Compression, IME Mode, IME Sentence Mode, and Smart Tags. The 'Field Size' property is highlighted with a blue selection bar.

Property
Field Size
Format
Input Mask
Caption
Default Value
Validation Rule
Validation Text
Required
Allow Zero Length
Indexed
Unicode Compression
IME Mode
IME Sentence Mode
Smart Tags

student_id

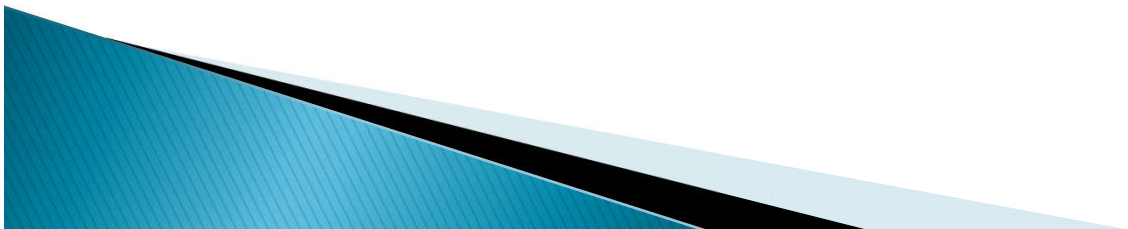
- ▶ Primary Key
 - Indexed (Yes No Duplicates)
 - Allow Zero Length (NO)
 - Required (Yes)



birth_date

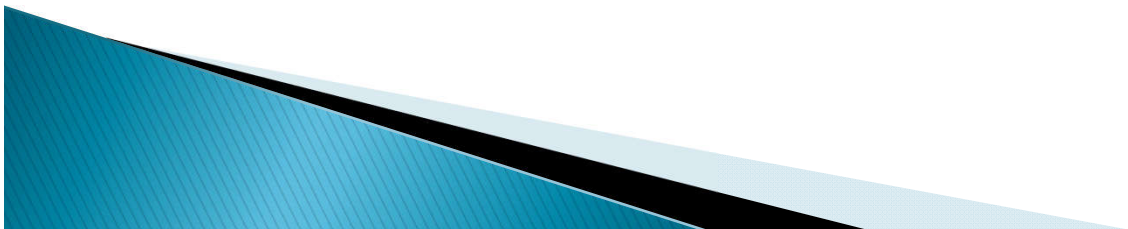
► Format

- Short Date
- Make sure to check system date format before entering the data
- Other date/number formats are also possible
 - dd-mm-yyyy
 - #.0000



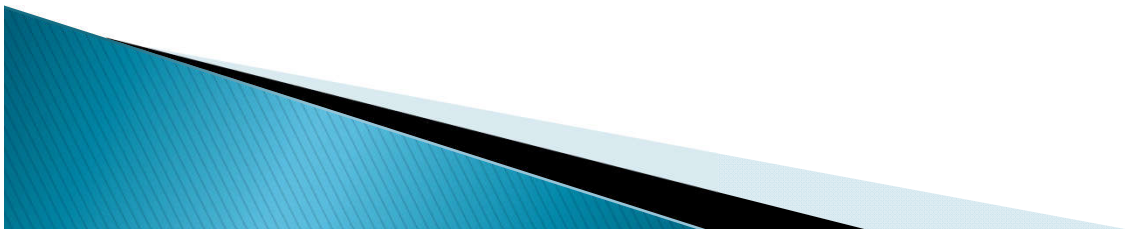
Inserting Field & Deleting

- ▶ Put in “Faculty”
 - The name of the faculty of the student
 - Text [20]
- ▶ Put in Age
 - Number [Integer]



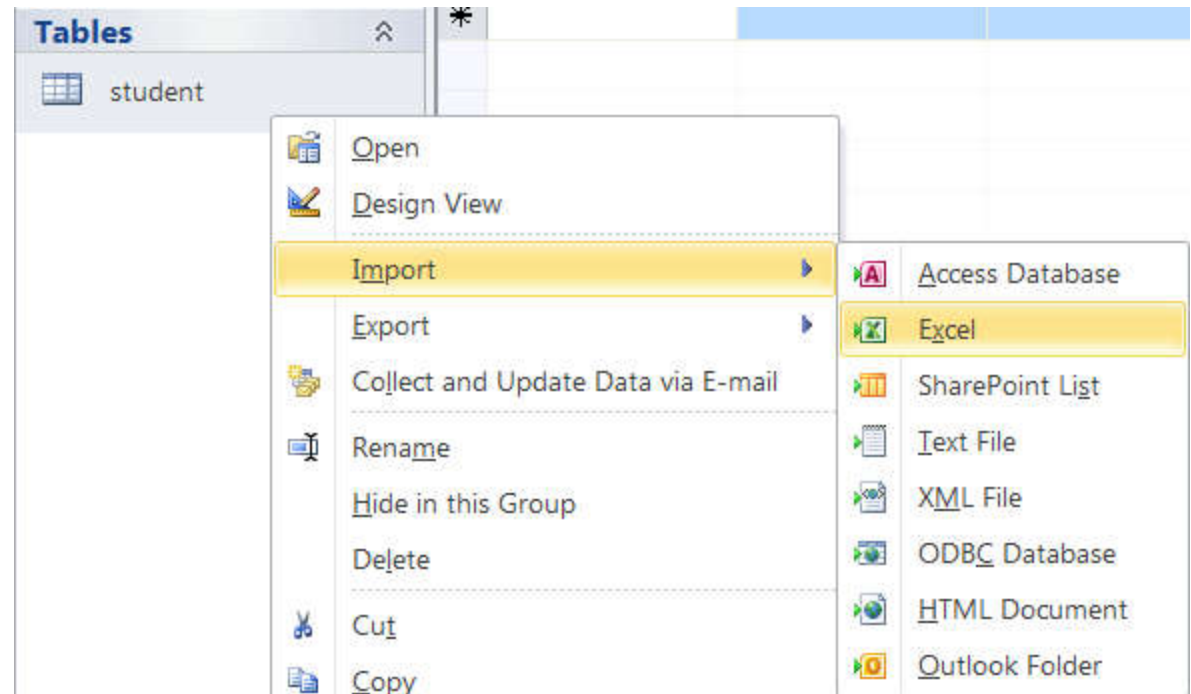
Entering Data

- ▶ Type in your own data for the 1st record
- ▶ Data can also be imported from the excel file.
- ▶ Field Name must match!!!



Importing Data [1]

- ▶ Right Click on “Student”
 - Import → Excel



Importing Data [2]

Get External Data - Excel Spreadsheet

Select the source and destination of the data

2 Specify the source of the data

Path to the Excel File

File name: (C:\....\.....\dataforaccesslab_02_en.xlsx)

1 Browse...

Specify how and where you want to store the data in the current database.

☐ Import the source data into a new table in the current database.
If the specified table does not exist, Access will create it. If the specified table already exists, Access might overwrite its contents with the imported data. Changes made to the source data will not be reflected in the database.

☒ Append a copy of the records to the table student

4

3 Link to the data source by creating a linked table.
Access will create a table that will maintain a link to the source data in Excel. Changes made to the source data in Excel will be reflected in the linked table. However, the source data cannot be changed from within Access.

Importing Data [3]

- ▶ Check Data
- ▶ Click *Finish*

Import Spreadsheet Wizard

Your spreadsheet file contains more than one worksheet or range. Which worksheet or range would you like?

☒ Show Worksheets ☐ Show Named Ranges

Students

Sample data for worksheet 'Students'.

	Student ID	Title	First Name	Last Name	Birth Date	GPA	Blood Type	Pet	Allowance	E-mail Address
1	500123456	Mr.	Ascending	Order	24693	2.34	O-			a.order@gmail.com
2	570899998	Mr.	Paul	Indrome	36404	3.43	A-	12321		paul.i@cmu.ac.th
3	571314159	Ms.	Pi	Pi	36599	3.14	AB+	3141.59		pipt@hotmail.com
4										
5										
6										
7										

Cancel < Back Next > Finish

Viewing Data

- ▶ Double Click on the table
 - Datasheet View

Students										
Student ID	Title	First Name	Last Name	Birth Date	GPA	Blood Type	Pet	Allownance	E-mail Address	
500123456	Mr.	Ascending	Order	1967-08-09	2.34	O-			a.order@gmail.com	
555555555	Mr.	Niranaam	Raisakul	1995-04-01	4.00	A+		500	niranaam.r@cmu.ac.th	
570883775	Mr.	Ralph	Chen	1996-02-05	2.28	B-	Dog	1200	raplh.c@cmu.ac.th	
570899998	Mr.	Paul	Indrome	1999-09-01	3.43	A-		12321	paul.i@cmu.ac.th	
571123456	Mr.	Rahul	Narayanan			O-		4500	rahul.narayanan@gmail.com	
571314159	Ms.	Pi	Pi	2000-03-14	3.14	AB+		3141.59	pipi@hotmail.com	
571634633	Mr.	Michael	Robertson	1995-01-03	2.54	AB+	Cat	2500	robertson_m@gmail.com	
571645508	Ms.	Jane	Doe	1993-12-25	3.25	O+	Raindeer	1525	jane.d@cmu.ac.th	
571888555	Ms.	Laura	Smith	1996-12-18	3.45	AB-		0	laura.s@cmu.ac.th	

Editing Table

- ▶ Click on the field, then type values
- ▶ Put in **Dog** for Pi's *Pet*
- ▶ And **Cat** for Rahul's *Pet*

Students									
Student ID	Title	First Name	Last Name	Birth Date	GPA	Blood Type	Pet	Allownance	E-mail Address
500123456	Mr.	Ascending	Order	1967-08-09	2.34	O-			a.order@gmail.com
555555555	Mr.	Niranaam	Raisakul	1995-04-01	4.00	A+		500	niranaam.r@cmu.ac.th
570883775	Mr.	Ralph	Chen	1996-02-05	2.28	B-	Dog	1200	raplh.c@cmu.ac.th
570899998	Mr.	Paul	Indrome	1999-09-01	3.43	A-		12321	paul.i@cmu.ac.th
571123456	Mr.	Rahul	Narayanan			O-	Cat	4500	rahul.narayanan@gmail.com
571314159	Ms.	Pi	Pi	2000-03-14	3.14	AB+	Dog	3141.59	pipi@hotmail.com
571634633	Mr.	Michael	Robertson	1995-01-03	2.54	AB+	Cat	2500	robertson_m@gmail.com
571645508	Ms.	Jane	Doe	1993-12-25	3.25	O+	Raindeer	1525	jane.d@cmu.ac.th
571888555	Ms.	Laura	Smith	1996-12-18	3.45	AB-		0	laura.s@cmu.ac.th

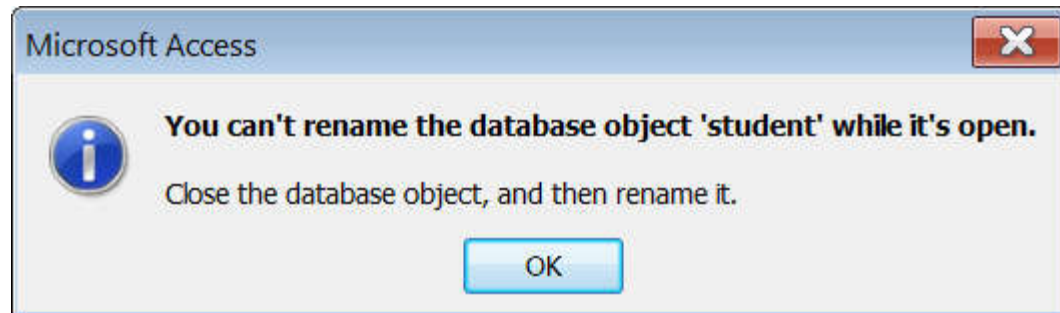
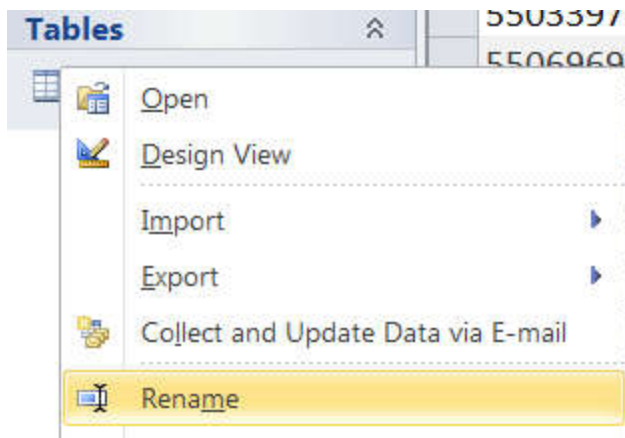
Data Sorting

- ▶ In Datasheet view, right-click on the field header, then select sort option.
- ▶ Try Sorting Each field
 - Sort By Birth Date
 - Sort By GPA

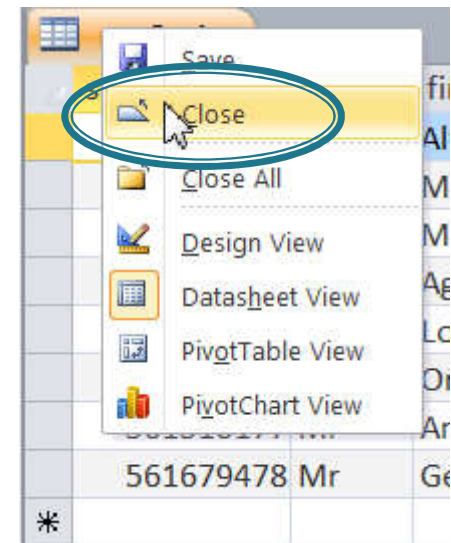


Changing the Table's Name

- ▶ Right Click on “Student” → **Rename**



- ▶ **Close** the table
- ▶ Rename the table to “newStudent”

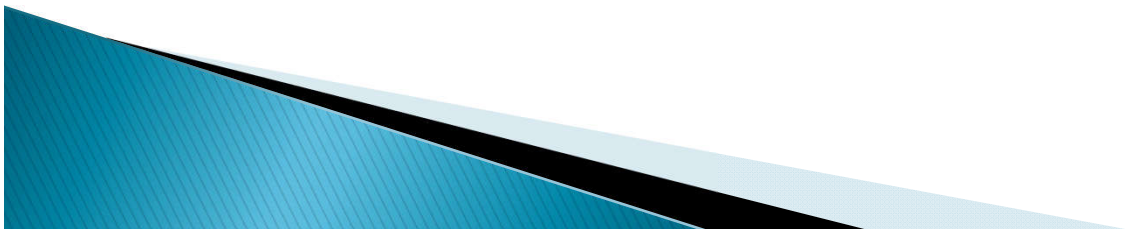


Query



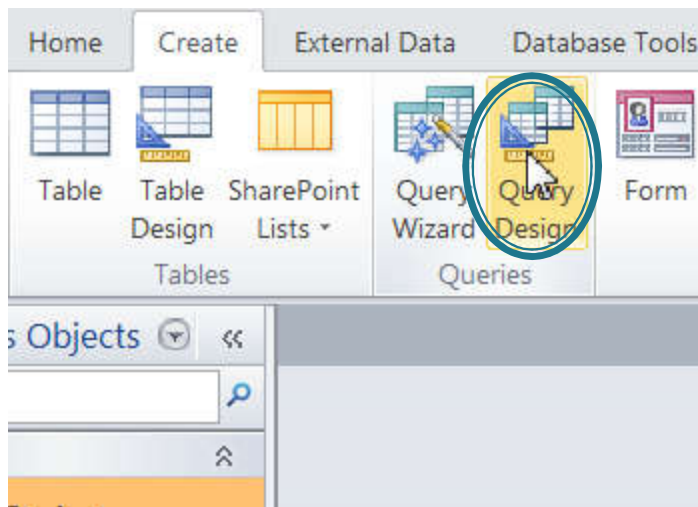
Creating a Query

- ▶ Query Wizard
- ▶ Query Design

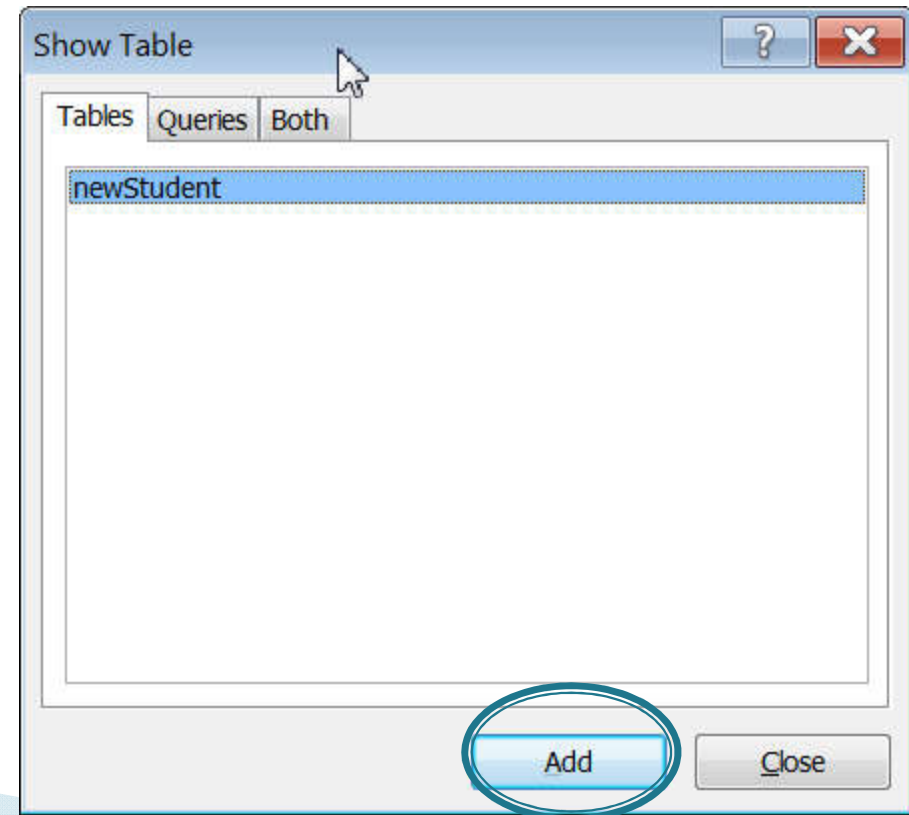


Creating Query

- ▶ Query Design



- ▶ Dialog Box “Show Table” (Recordsource)



- Add

- Close

Query Design

- ▶ From the table
- ▶ Select fields to use (display + conditions)
 - Student ID
 - First Name
 - Last Name
 - Blood Type
- ▶ Specify condition(s)
 - With the “AB+” Blood Type

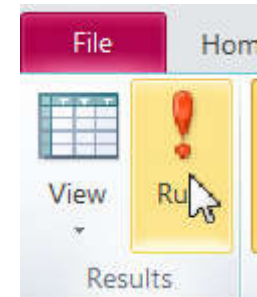
newStudent	
*	
🔑	Student ID
	Title
	First Name
	Last Name
	Birth Date
	GPA
	Blood Type
	Pet
	Allownance
	E-mail Address

Query Design [2]

Parameters

Field:	Student ID	First Name	Last Name	Blood Type
Table:	newStudent	newStudent	newStudent	newStudent
Sort:				
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Criteria:				"AB+"
or:				

- ▶ All criteria on the same line are joined with **AND** (all have to be true)
- ▶ Different lines are with **OR** (either can be true)
- ▶ Process one line at a time

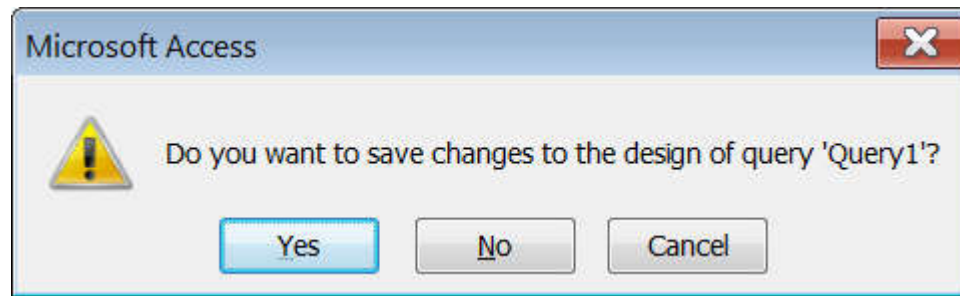


▶ The Result →

Student ID	First Name	Last Name
571634633	Michael	Robertson
571314159	Pi	Pi
*		

Query Design [3]

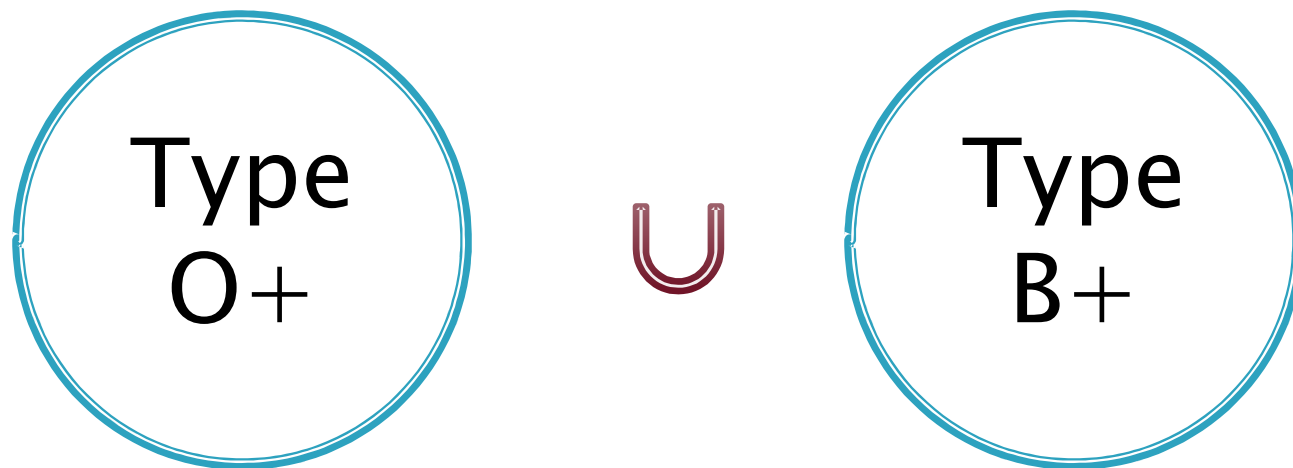
- ▶ Saving Query



- ▶ Name it "AB+ Blood Type"

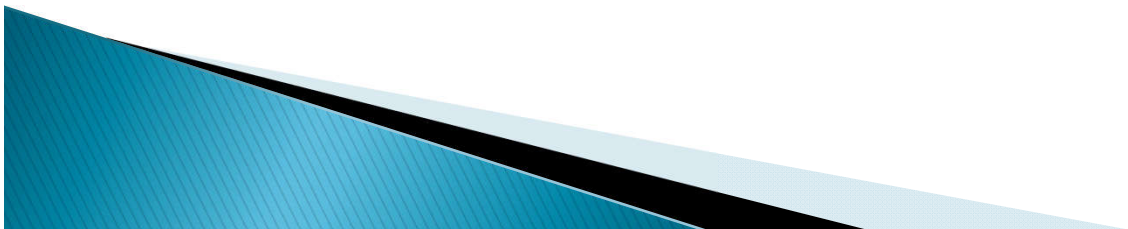
Query Practice I

- ▶ Create a query to find students with O+ blood type **and** students with B+ blood type (showing Name, Birth Date, and Blood Type)



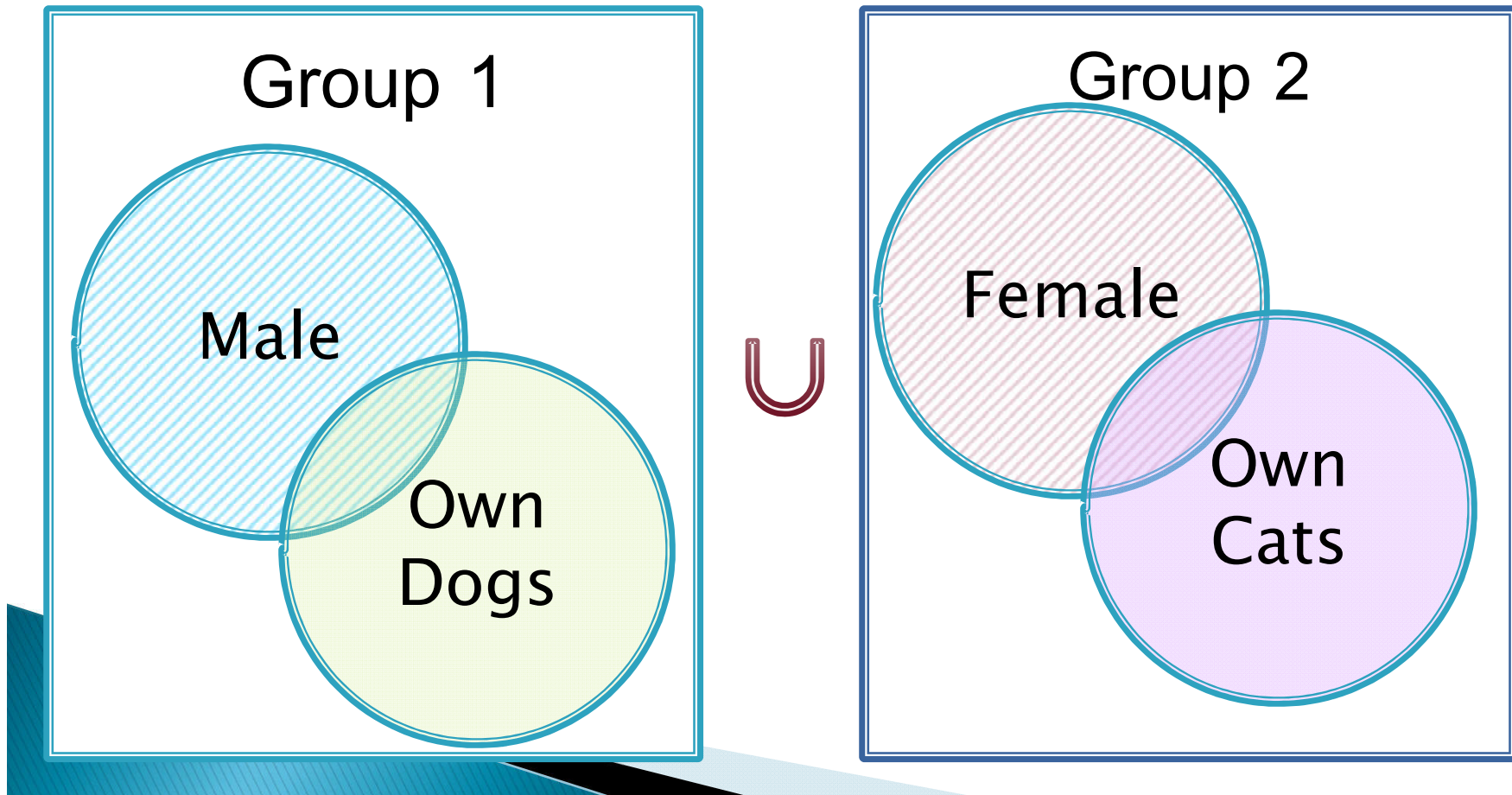
Query Practice II

- ▶ Create a Query to find Male students who own **dogs** and female students who own **cats**
 - How many groups of results
 - Number of Lines for “Criteria”
 - 2 groups
 - The properties of each group
 - The criteria condition in each line



Query Practice II [2]

- ▶ How many group of data?
- ▶ What's the properties of each group?

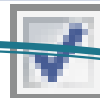


Query Practice III

- ▶ Create a Query for students with GPA b/w 2.50 and 3.00 (showing title, name, gpa)

gpa

newStudent



≥ 2.5 And ≤ 3

Query Practice IV

- ▶ Create a query to find the name and student id of students from the faculty of Economics (16)
 - Wild card
 - ? for “any one character”
 - * for “any characters” (even nothing)
 - 5516XXXXXX
 - 5616XXXXXX
 - 5416XXXXXX
 - 5?16* or 5?16?????
 - Notice the keyword “Like”

Summary

- ▶ Creating Table
- ▶ Entering/Editing Data
- ▶ Importing Data from other source
- ▶ Creating Query

