

MS-Access

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MS-Access 2016

7.1 Database Basics & Table

7.2 Form

7.3 Query

7.4 Report

7.5 Working with Multiple Tables



7.3 Query



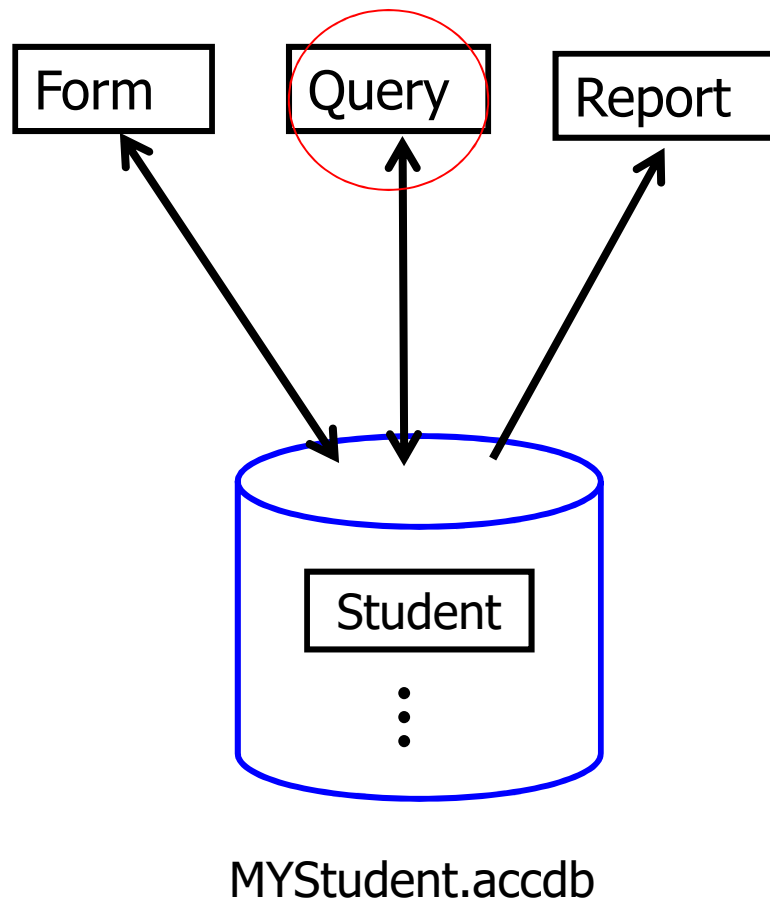
7.3 Query

(1) Working with Query

(2) Creating a Query

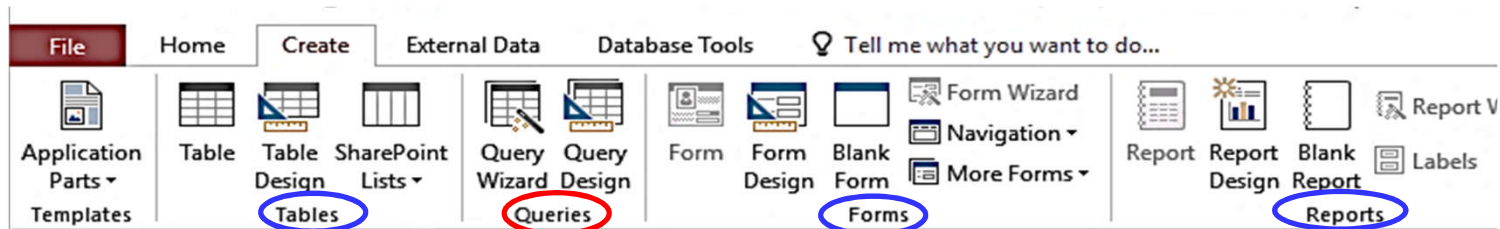


(1) Working with Query



(1) Working with Query (cont.)

- **Tables** Where data are stored. A table consists of rows (records) and column (types of fields)
- **Forms** User-created interface for easy & quick data entry and editing.
- **Reports** User-created display of data.
- **Queries** User-defined filter of data. How you ask database questions. In effect, queries help you search for the data you want



(1) Working with Query (cont.)

Query is the tool that Microsoft Access has provide us to ask and view only the data that match our **criteria** (the conditions of the data we want) for example, from **Student** table, we might want to view only students with **GPA less than 2.0**. We can create a query to do that.



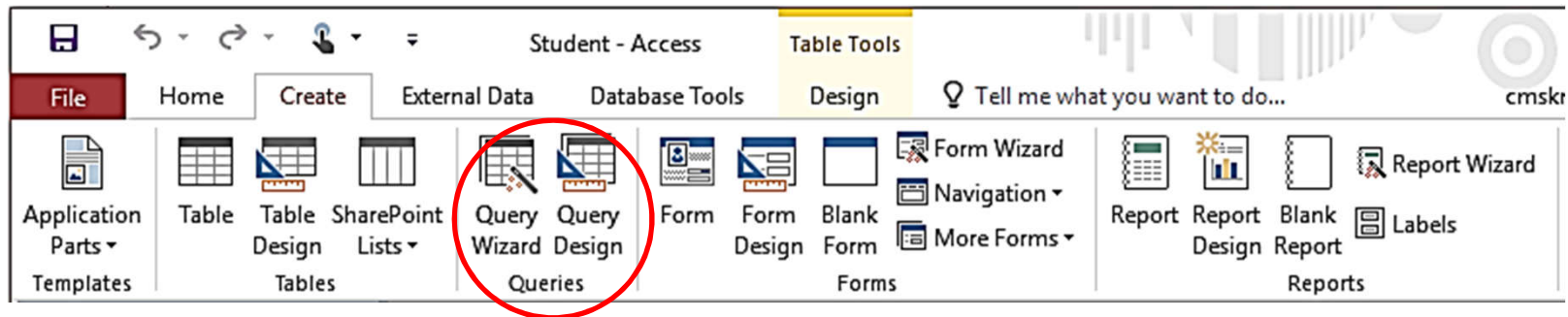
(2) Creating a Query

There are 2 ways to create a query

Create tab → Queries group

(1) Query Wizard create a query by following step-by-step guide

(2) Query Design create a query where you will specify the criteria, which fields will be displayed, and in what order



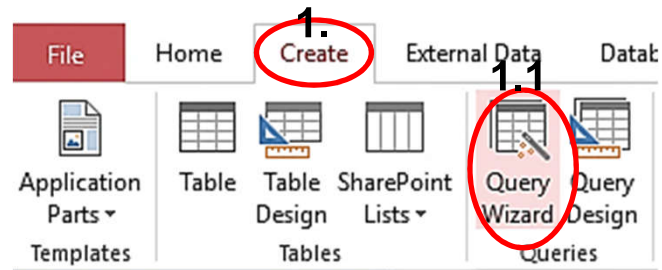
(2.1) Query Wizard

Still using **MyStudent** database, with **Student** table

To create a query using **Query Wizard**, follow these steps:

1. Click **Create** tab

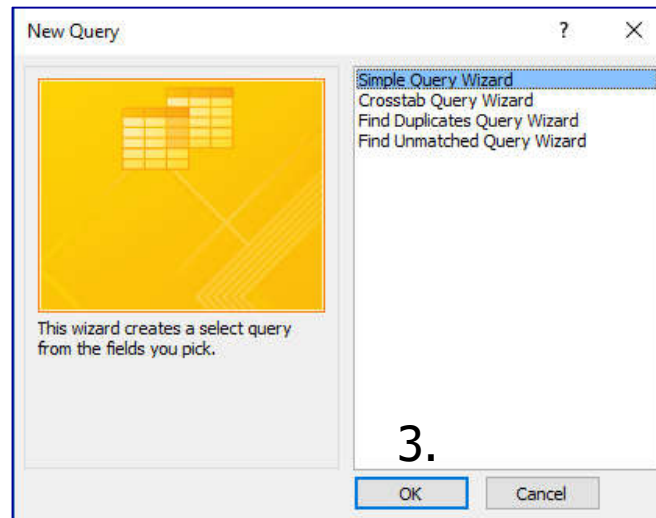
1.1 Select **Query Wizard**



Query Wizard will appear

2. Select **Simple Query Wizard**

3. Click **OK**



(2.1) Query Wizard (cont.)

We will be move to **Simple Query Wizard** dialog

4. Do the following:

4.1 Click to select data source. For his example, we select **Table: Student**

4.2 Select the field we need for the query, or to display, then click

–Or click to use all fields.

Remove field already selected by click or to remove all of them

In this example, we

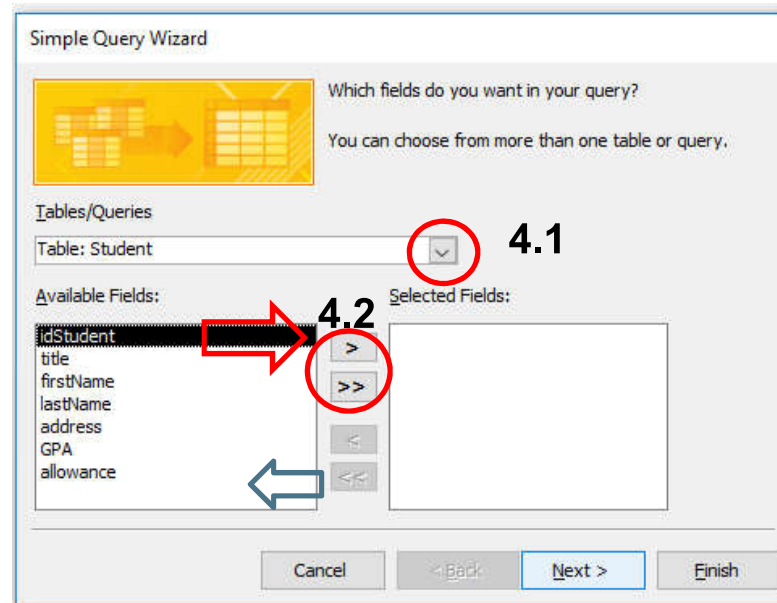
select all fields

idStudent, title,

firstName, lastName,

address,...

4.3 Click Next



(2.1) Query Wizard (cont.)

- Next step, select to show **Detail** or just **Summary**
 - For this example, select **Detail** then click **Next**

Simple Query Wizard

Would you like a detail or summary query?

Detail (shows every field of every record)

Summary

Summary Options ...

Cancel < Back **Next >** Finish



(2.1) Query Wizard (cont.)

Next, you will be asked to name the query, and select where to go next after the query is created.

5. Do the following steps.

5.1 Name the query (**Student Query** is the default name, where you can change it)

5.2 Select **Open the query to view information** to view the result of the query

5.3 Click **Finish**

Simple Query Wizard

What title do you want for your query?

Student Query

That's all the information the wizard needs to create your query.

Do you want to open the query or modify the query's design?

Open the query to view information.

Modify the query design.

Cancel < Back Next > Finish

(2.1) Query Wizard (cont.)

The result (same as the table at the moment):

| idStudent | title | firstName | lastName | ac | birthdate | GPA | bloodType | Pet |
|-----------|-------|-----------|-----------|----|------------|------|-----------|----------|
| 502023456 | Mr. | Ascending | Order | | 1967-08-09 | 2.34 | O- | |
| 555555555 | Mr. | Niranaam | Raisakul | | 1995-04-01 | 4.00 | A+ | Cro |
| 570899998 | Mr. | Paul | Indrome | | 1999-09-01 | 3.43 | A- | |
| 571123456 | Mr. | Rahul | Narayanan | | | | O- | Cat |
| 571634633 | Mr. | Michael | Robertson | | 1995-01-03 | 2.54 | AB+ | Cat |
| 571645508 | Ms. | Jane | Doe | | 1993-12-25 | 3.25 | O+ | Raindeer |
| 572014159 | Ms. | Pi | Pi | | 2000-03-14 | 3.14 | AB+ | |
| 572083775 | Mr. | Ralph | Chen | | 1996-02-05 | 2.28 | B- | Dog |
| 572088555 | Ms. | Laura | Smith | | 1996-12-18 | 3.45 | AB- | |
| * | | | | | | | | |



(2.2) Query Design

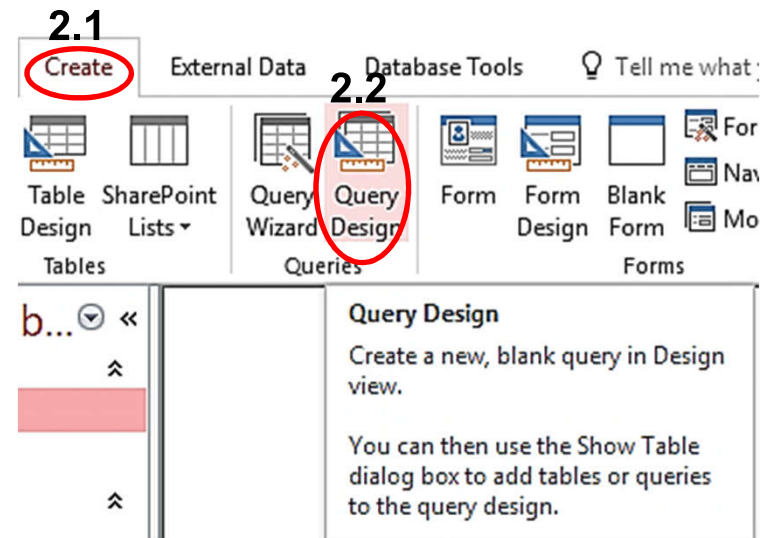
This will create query from the Design view, where we can select fields to show/use and **criteria** to limit record that appear (matching the criteria only)

1. Still using **Student** table

2. Do the following steps:

2.1 Click **Create** tab

2.2 Click **Query Design**



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(2.2) Query Design (cont.)

3. Select table by doing the followings:

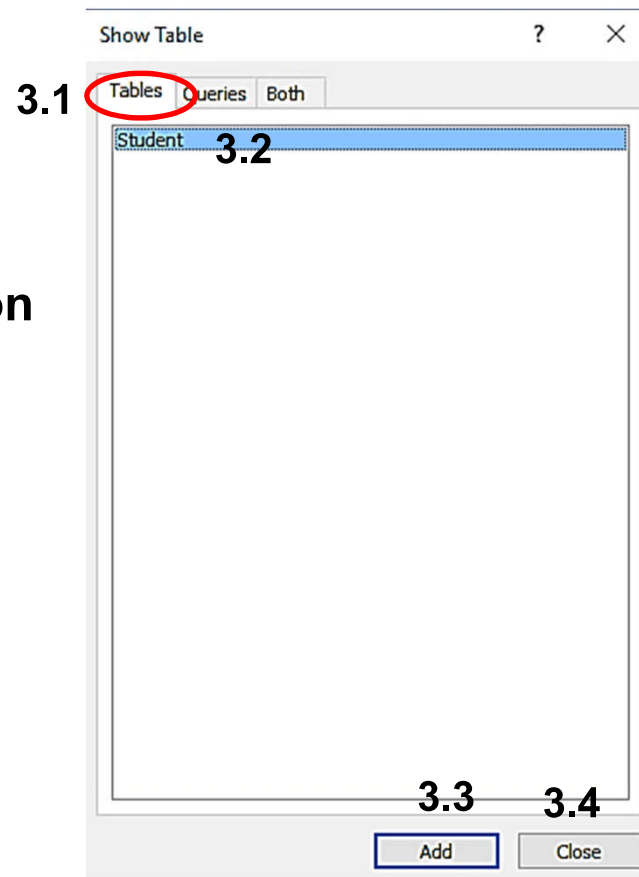
3.1 Identify the data source. Click **Table** tab

for now.

3.2 Click **Student**

3.3 Click **Add** button

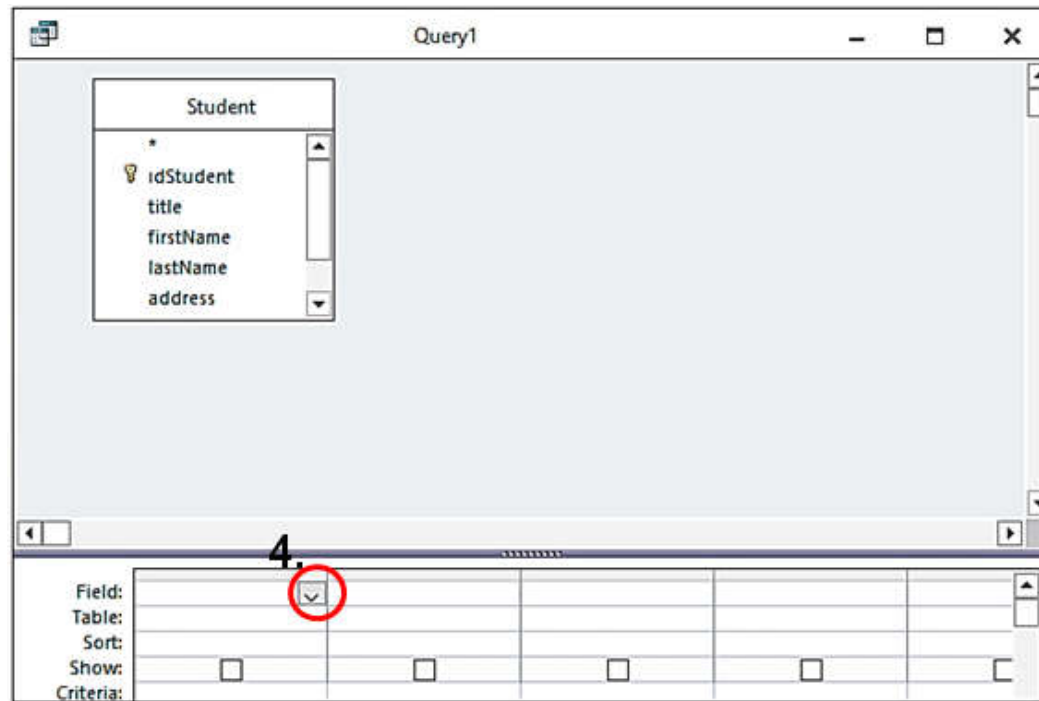
3.4 The click **Close** button



(2.2) Query Design (cont.)

Query Design View will appear

4. Select the field we want to use and/or display by double click them in the table, or click the expand button in the **Field:** box



(2.2) Query Design (cont.)

For example, we want the following fields:

idStudent title firstName lastName address GPA allowance

5. Make sure you select all the fields we need

At Show , the symbol means that the field will be shown in the query

5.

| Field: | idStudent | title | firstName | lastName | address | GPA | allowance |
|-----------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-----------|-------------------------------------|-------------------------------------|
| Table: | Student | Student | Student | Student | Student.* | Student | Student |
| Sort: | | | | | idStudent | | |
| Show: | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | title | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Criteria: | | | | | firstName | | |
| or: | | | | | lastName | | |
| | | | | | address | | |
| | | | | | GPA | | |
| | | | | | allowance | | |



(2.2) Query Design (cont.)

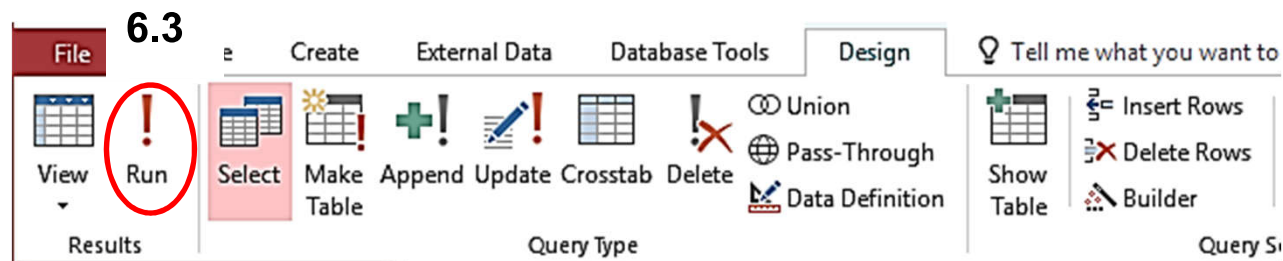
6. We will start with simple criteria

6.1 At Show ✓ means that field will be display in the query result (what you want to see). Check idStudent, title, firstName, lastName, and GPA

6.2 At Criteria. We want to see male student, so we will be “Mr.” at the criteria box of title.

6.3 Click Run to see the result.

| Field: | idStudent | title | firstName | lastName | GPA |
|-----------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Table: | Student | Student | Student | Student | Student |
| Sort: | | | | | |
| Show: | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Criteria: | | "Mr." | | | |
| or: | | | | | |



(2.2) Query Design (cont.)

- The result:

| idStudent | title | firstName | lastName | GPA |
|-----------|-------|-----------|-----------|------|
| 502023456 | Mr. | Ascending | Order | 2.34 |
| 555555555 | Mr. | Niranaam | Raisakul | 4.00 |
| 570899998 | Mr. | Paul | Indrome | 3.43 |
| 571123456 | Mr. | Rahul | Narayanan | |
| 571634633 | Mr. | Michael | Robertson | 2.54 |
| 572083775 | Mr. | Ralph | Chen | 2.28 |
| * | | | | |

- Compare to the complete table

| idStudent | title | firstName | lastName | ac |
|-----------|-------|-----------|-----------|----|
| 502023456 | Mr. | Ascending | Order | |
| 555555555 | Mr. | Niranaam | Raisakul | |
| 570899998 | Mr. | Paul | Indrome | |
| 571123456 | Mr. | Rahul | Narayanan | |
| 571634633 | Mr. | Michael | Robertson | |
| 571645508 | Ms. | Jane | Doe | |
| 572014159 | Ms. | Pi | Pi | |
| 572083775 | Mr. | Ralph | Chen | |
| 572088555 | Ms. | Laura | Smith | |
| * | | | | |



(2.2) Query Design (cont.)

Criteria

- For numerical field such as Number or Currency you can use comparison = , <> , > , < , >= , <=, for example
 - >= 18.25
 - <> 5
- For text field such as Short Text or Long Text
Use quotation mark (" ") over the value to compare, for example:
 - "Mathematics"
 - "105/2 Phaholyothin Rd."



(2.2) Query Design (cont.)

Criteria (cont.)

- Comparison and logic operator
>, <, =, >=, <=, <>, NOT, AND, OR
- Field name
[table name].[field name]

For example: **Student.firstName**



Criteria

-

Wildcards

A* Every data starting with A
*A Every data ending with A
A Every data ending with A at any location
A?? Every data with the length of 3 characters
First one must be A, the other 2 can be anything

Field name: Fname
Table: Employee
Sort :
Show : ✓
Criteria: A*
or B*
or C*

Find a record with Fname starts with A or B or C

Field name: Fname Position
Table: Employee Employee
Sort :
Show : ✓
Criteria: A* Sale

Find a record with Fname starts with A and has Position of Sale

Question:
Table: Student
Field name: title
M*
M??

Same/different results?



Criteria

| | | | | | |
|-------------|-----------|---------|-----------|----------|---------|
| Field name: | idStudent | title | firstName | lastName | GPA |
| Table: | Student | Student | Student | Student | Student |
| Sort : | | | | | |
| Show : | ✓ | ✓ | ✓ | ✓ | ✓ |
| Criteria: | | | | ra* | |

| | | | | | |
|-----------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Field: | idStudent | title | firstName | lastName | GPA |
| Table: | Student | Student | Student | Student | Student |
| Sort: | | | | | |
| Show: | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Criteria: | | | | ra** | |
| or: | | | | | |

Result

| idStudent | title | firstName | lastName | GPA |
|-----------|-------|-----------|----------|------|
| 555555555 | Mr. | Niranaam | Raisakul | 4.00 |
| * | | | | |

At lastName field Criteria, try:

1. *ra*
2. ra*
3. ra

How different are the results?



Examples

1.

| | | | | | |
|-------------|-----------|---------|-----------|----------|---------|
| Field name: | idStudent | title | firstName | lastName | GPA |
| Table: | Student | Student | Student | Student | Student |
| Sort : | | | | | |
| Show : | ✓ | ✓ | ✓ | ✓ | ✓ |
| Criteria: | Mr. | | | | >3.0 |

Result

| idStudent | title | firstName | lastName | GPA |
|-----------|-------|-----------|----------|------|
| 55555555 | Mr. | Niranaam | Raisakul | 4.00 |
| 570899998 | Mr. | Paul | Indrome | 3.43 |

2.

| | | | | | |
|-------------|-----------|---------|-----------|----------|----------------|
| Field name: | idStudent | title | firstName | lastName | GPA |
| Table: | Student | Student | Student | Student | Student |
| Sort : | | | | | |
| Show : | ✓ | ✓ | ✓ | ✓ | ✓ |
| Criteria: | | | | | <3.0 AND > 2.0 |

Result

| idStudent | title | firstName | lastName | GPA |
|-----------|-------|-----------|-----------|------|
| 502023456 | Mr. | Ascending | Order | 2.34 |
| 571634633 | Mr. | Michael | Robertson | 2.54 |
| 572083775 | Mr. | Ralph | Chen | 2.28 |

3.

| | | | | | |
|-------------|-----------|---------|-----------|----------|---------|
| Field name: | idStudent | title | firstName | lastName | GPA |
| Table: | Student | Student | Student | Student | Student |
| Sort : | | | | | |
| Show : | ✓ | ✓ | ✓ | ✓ | ✓ |
| Criteria: | | | | | >3.0 |
| or: | | | | | < 2.0 |



Result for 3.

| idStudent | title | firstName | lastName | GPA |
|-----------|-------|-----------|----------|------|
| 555555555 | Mr. | Niranaam | Raisakul | 4.00 |
| 570899998 | Mr. | Paul | Indrome | 3.43 |
| 571645508 | Ms. | Jane | Doe | 3.25 |
| 572014159 | Ms. | Pi | Pi | 3.14 |
| 572088555 | Ms. | Laura | Smith | 3.45 |
| * | | | | |



7.3 Query

Conclusion

- We have learned how to create queries
 - With **Query Wizard**
 - And on your own with **Query Design**
- If we want to know something about the data in the database, a query is a powerful tools for you to find the answer.

Notice: Make sure your query is correct. What you tell MS Access to do, and what you think you tell MS Access to do maybe two different things.

