

# Session (01.03)

## Building Database using Microsoft Access III

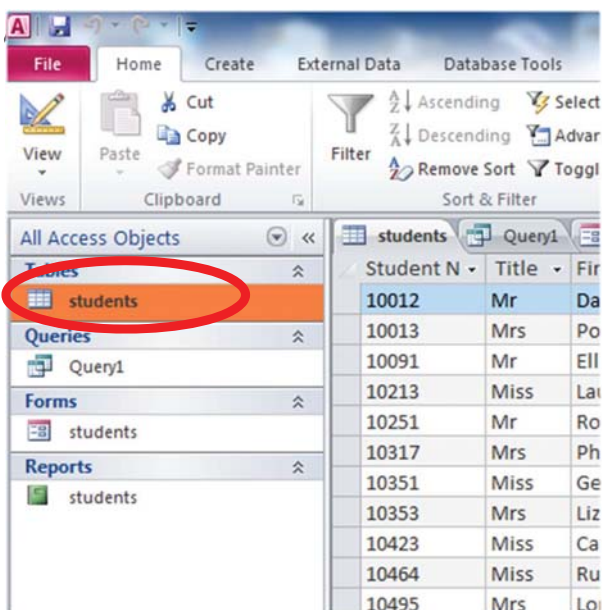
---

Dr. Ahmed M. ElShafee

Dr. Ahmed ElShafee, ACU Fall 2013, Practical Applications in CS I

## Reports

---



example 01 - Copy : Database (Access 2007) - Microsoft Access

File Home Create External Data Database Tools Acrobat Fields Table

Application Parts Table Table Design SharePoint Lists Query Wizard Query Design Form Form Design Blank Form Navigation Report Report Design Blank Report Labels Macro Class Module Visual Basic

All Access Objects

Tables students

Queries Query1

Forms students

Reports students

| Student N | Title | First Nam | Other Initial | Surname  | Hall         | Userid   | Tutor  | Optio | Date o |
|-----------|-------|-----------|---------------|----------|--------------|----------|--------|-------|--------|
| 10012     | Mr    | David     |               | Brachen  | Bridges      | squ06db  | Evans  | 7     | ٨٧     |
| 10013     | Mrs   | Polly     | M             | Quinnell | Private      | squ06pmc | Foot   | 4     | ٨٥     |
| 10091     | Mr    | Elliot    |               | Green    | Private      | squ06eg  | Morris | 6     | ٨٦     |
| 10213     | Miss  | Laura     | L             | Short    | St Patrick's | squ06lls | Fox    | 8     | ٨٢     |
| 10251     | Mr    | Roger     | W             | Harris   | Sherfield    | squ06rwh | Owen   | 5     | ٨٣     |
| 10317     | Mrs   | Philippa  | V             | Hayman   | Private      | squ06pvh | Davies | 5     | ٨٢     |
| 10351     | Miss  | Gemma     |               | Stace    | Sherfield    | squ06gs  | Foot   | 2     | ٨٧     |
| 10353     | Mrs   | Liz       | F             | Perry    | Private      | squ06lfp | Owen   | 6     | ٨٩     |

٣

Dr. Ahmed ElShafee, ACU Fall 2013, Practical Applications  
in CS I

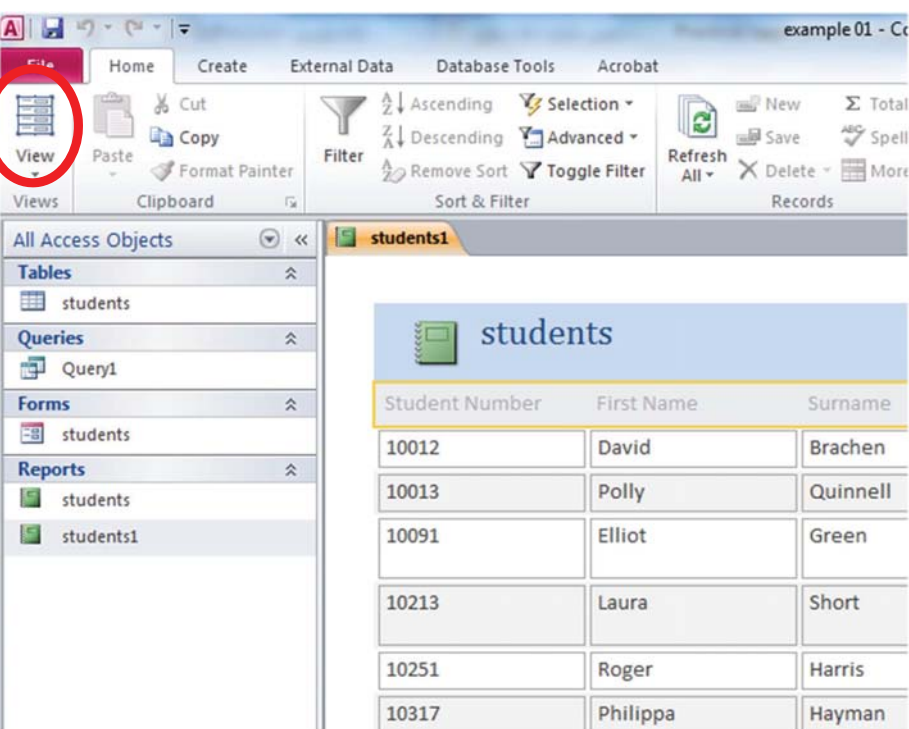
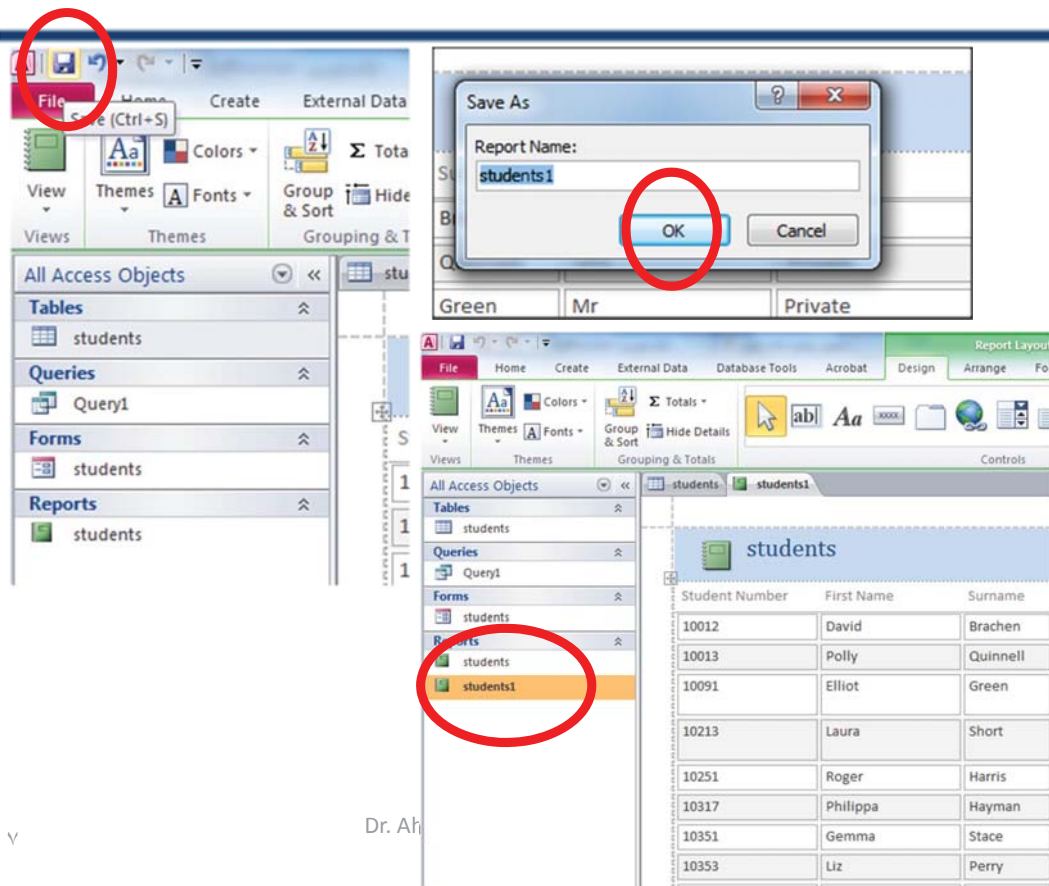
| students       |            |       |            |                |              |          |  |
|----------------|------------|-------|------------|----------------|--------------|----------|--|
| Student Number | Surname    | Title | First Name | Other Initials | Hall         | Userid   |  |
| 10012          | Brachen    | Mr    | David      |                | Bridges      | squ06db  |  |
| 10013          | Quinnell   | Mrs   | Polly      | M              | Private      | squ06pmq |  |
| 10091          | Green      | Mr    | Elliot     |                | Private      | squ06eg  |  |
| 10213          | Short      | Miss  | Laura      | L              | St Patrick's | squ06lls |  |
| 10251          | Harris     | Mr    | Roger      | W              | Sherfield    | squ06rwh |  |
| 10317          | Hayman     | Mrs   | Philippa   | V              | Private      | squ06pvh |  |
| 10351          | Stace      | Miss  | Gemma      |                | Sherfield    | squ06gs  |  |
| 10353          | Perry      | Mrs   | Liz        | F              | Private      | squ06lfp |  |
| 10423          | Hattan     | Miss  | Caroline   | T              | Windsor      | squ06cth |  |
| 10464          | Hopkins    | Miss  | Ruth       | F              | Private      | squ06rfh |  |
| 10495          | Moon       | Mrs   | Lorna      | B              | Private      | squ06lbn |  |
| 10563          | Stratton   | Mr    | Julian     | K.P.           | Childs       | squ06jks |  |
| 10703          | O'Sullivan | Miss  | Linda      | R              | St George's  | squ06lro |  |

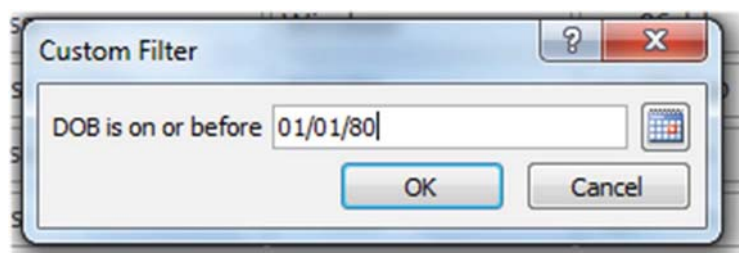
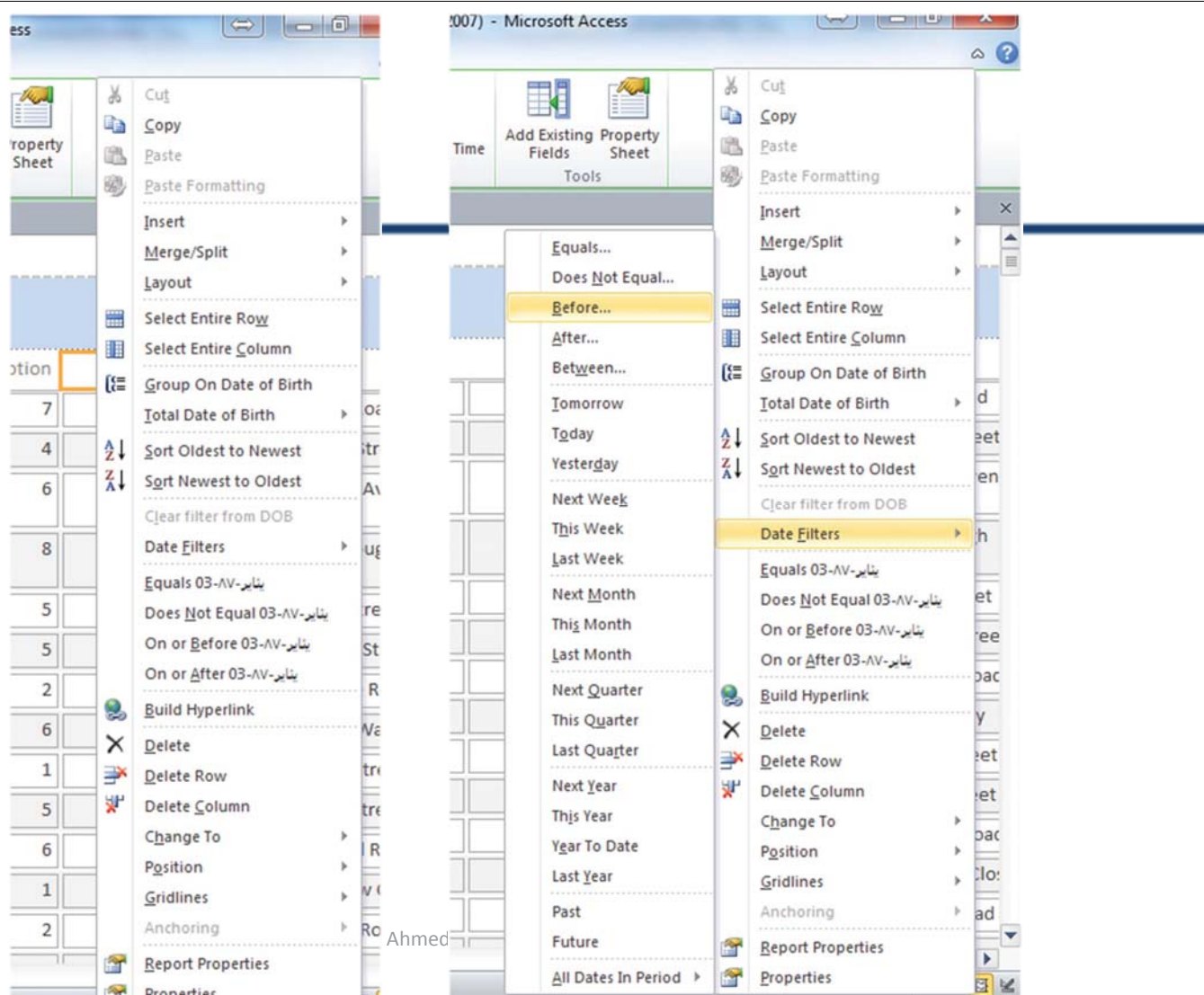
٤

Dr. Ahmed ElShafee, ACU Fall 2013, Practical Applications  
in CS I

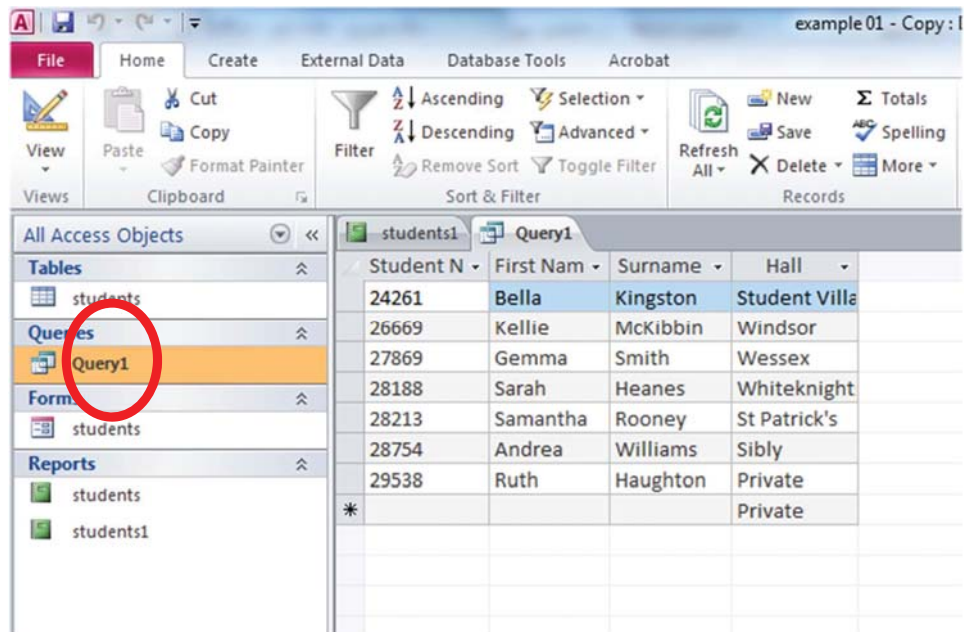
| students       |            |  |       |            |
|----------------|------------|--|-------|------------|
| Student Number | Surname    |  | Title | First Name |
| 10012          | Brachen    |  | Mr    | David      |
| 10013          | Quinnell   |  | Mrs   | Polly      |
| 10091          | Green      |  | Mr    | Elliot     |
| 10213          | Short      |  | Miss  | Laura      |
| 10251          | Harris     |  | Mr    | Roger      |
| 10317          | Hayman     |  | Mrs   | Philippa   |
| 10351          | Stace      |  | Miss  | Gemma      |
| 10353          | Perry      |  | Mrs   | Liz        |
| 10423          | Hattan     |  | Miss  | Caroline   |
| 10464          | Hopkins    |  | Miss  | Ruth       |
| 10495          | Moon       |  | Mrs   | Lorna      |
| 10563          | Stratton   |  | Mr    | Julian     |
| 10703          | O'Sullivan |  | Miss  | Linda      |

| students       |            |            |       |              |          |
|----------------|------------|------------|-------|--------------|----------|
| Student Number | First Name | Surname    | Title | Hall         | Userid   |
| 10012          | David      | Brachen    | Mr    | Bridges      | squ06db  |
| 10013          | Polly      | Quinnell   | Mrs   | Private      | squ06pmq |
| 10091          | Elliot     | Green      | Mr    | Private      | squ06eg  |
| 10213          | Laura      | Short      | Miss  | St Patrick's | squ06lls |
| 10251          | Roger      | Harris     | Mr    | Sherfield    | squ06rwh |
| 10317          | Philippa   | Hayman     | Mrs   | Private      | squ06pvh |
| 10351          | Gemma      | Stace      | Miss  | Sherfield    | squ06gs  |
| 10353          | Liz        | Perry      | Mrs   | Private      | squ06lfp |
| 10423          | Caroline   | Hattan     | Miss  | Windsor      | squ06cth |
| 10464          | Ruth       | Hopkins    | Miss  | Private      | squ06rfh |
| 10495          | Lorna      | Moon       | Mrs   | Private      | squ06lbn |
| 10563          | Julian     | Stratton   | Mr    | Childs       | squ06jks |
| 10703          | Linda      | O'Sullivan | Miss  | St George's  | squ06lro |

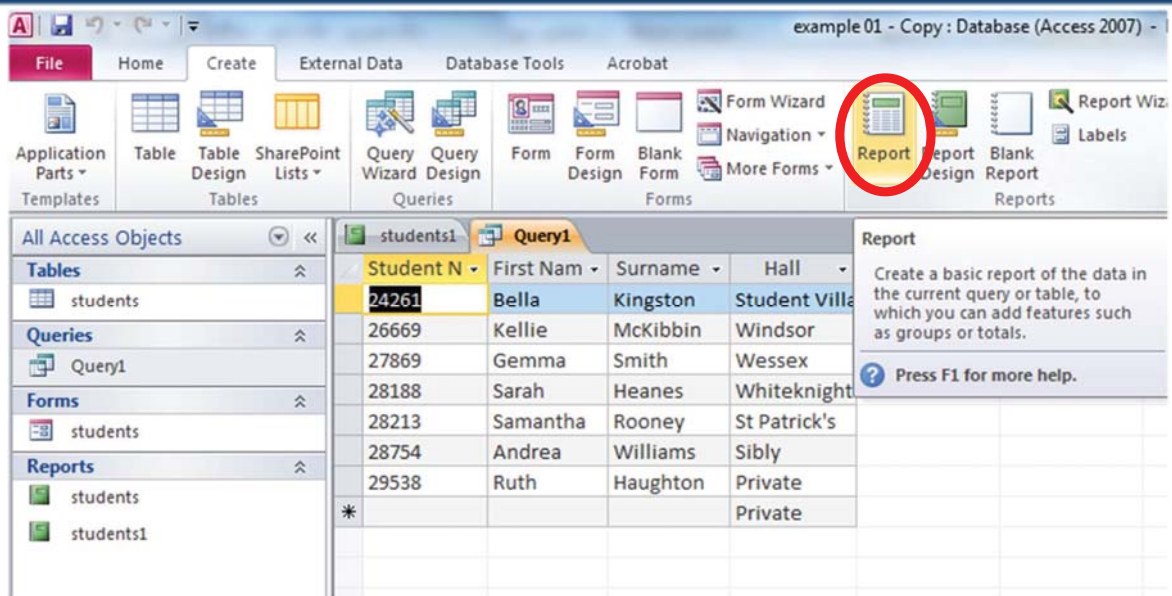




| students       |            |            |       |             |          |          |        |               | ١١ سبتمبر ٢٠١٣<br>٠٩:٤٣:٥٢ م |
|----------------|------------|------------|-------|-------------|----------|----------|--------|---------------|------------------------------|
| Student Number | First Name | Surname    | Title | Hall        | Userid   | Tutor    | Option | Date of Birth |                              |
| 10703          | Linda      | O'Sullivan | Miss  | St George's | squ06lro | Matthews | 2      | ١٨ مايو-٦٥    |                              |
| 13190          | Sarah      | Little     | Miss  | Windsor     | squ06shl | Clarke   | 9      | ١٠ أغسطس-٦٣   |                              |
| 14553          | Mary       | Parrott    | Mrs   | Private     | squ06mgp | Spencer  | 1      | ٢٢ نوفمبر-٧٩  |                              |
| 18926          | Sarah      | Salmon     | Miss  | Private     | squ07svs | Hunt     | 3      | ١٦ أكتوبر-٧١  |                              |
| 19581          | Anna       | Sanderson  | Mrs   | Private     | squ07ads | Dixon    | 8      | ٠٣ ديسمبر-٧٦  |                              |
| 21504          | Hugo       | Jerome     | Mr    | Private     | squ07hlj | Hall     | 9      | ١٤ نوفمبر-٧٢  |                              |
| 23509          | Emily      | Walker     | Mrs   | Private     | squ08ehw | Williams | 5      | ١٩ يوليو-٦٧   |                              |



Dr. Ahmed ElShafee, ACU Fall 2013, Practical Applications  
in CS I



Dr. Ahmed ElShafee, ACU Fall 2013, Practical Applications  
in CS I

example 01 - Copy : Database (Access 2007)

File Home Create External Data Database Tools Acrobat Design Arrange Format Page Setup

View Themes Colors Fonts Group & Sort Hide Details Totals

Report View **Print Preview** Layout View Design View

Reports students students1

Query1

Query1

Student Number First Name Surname Hall

|       |          |          |                 |
|-------|----------|----------|-----------------|
| 24261 | Bella    | Kingston | Student Village |
| 26669 | Kellie   | McKibbin | Windsor         |
| 27869 | Gemma    | Smith    | Wessex          |
| 28188 | Sarah    | Heanes   | Whiteknights    |
| 28213 | Samantha | Rooney   | St Patrick's    |
| 28754 | Andrea   | Williams | Sibly           |
| 29538 | Ruth     | Haughton | Private         |

7

١٣

Dr. Ahmed ElShafee, ACU Fall 2013, Practical Applications  
in CS I

Query1

11 سبتمبر، ٢٠١٣  
٠٩:٥٣:٣٥ م

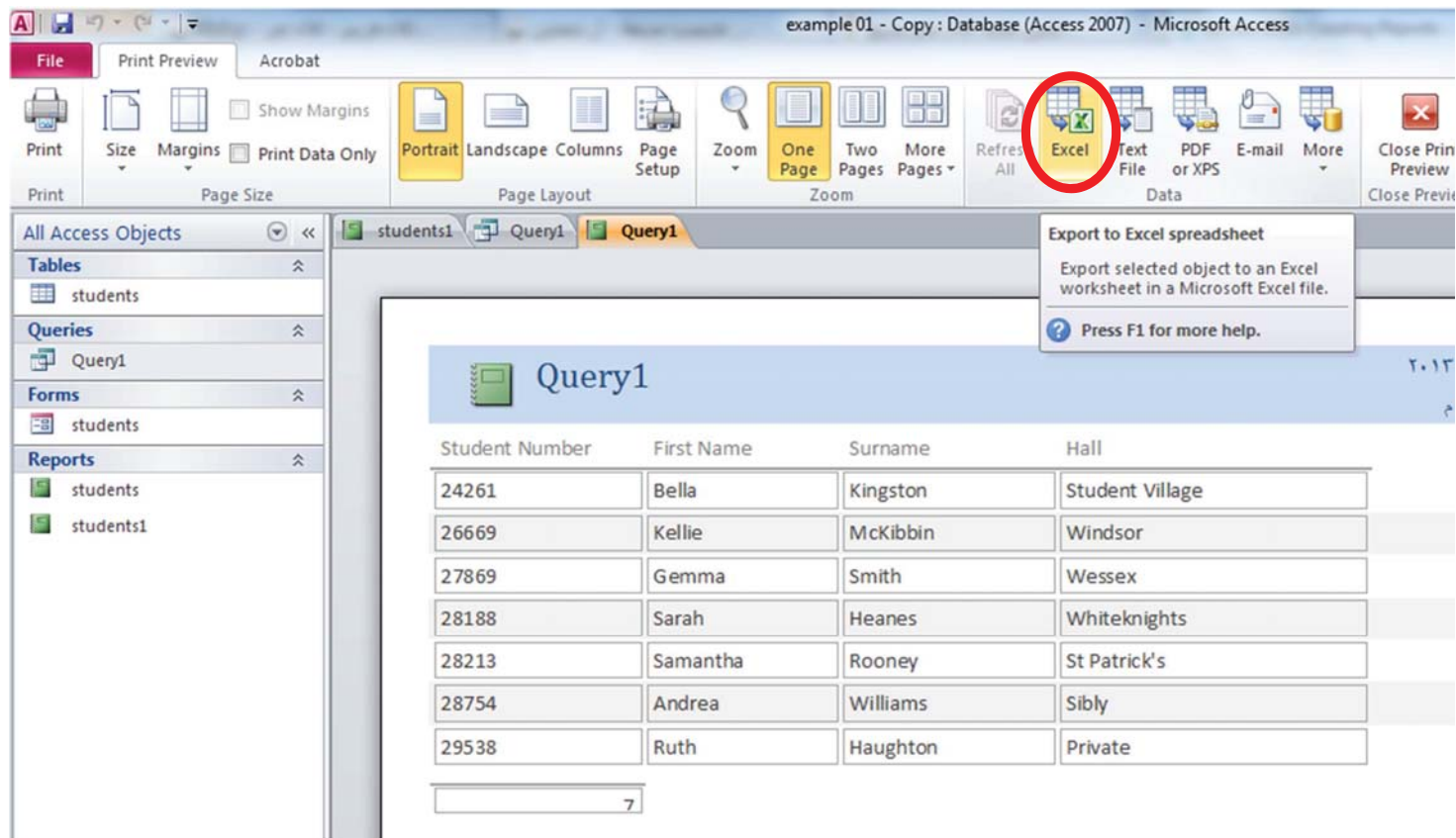
Student Number First Name Surname Hall

|       |          |          |                 |
|-------|----------|----------|-----------------|
| 24261 | Bella    | Kingston | Student Village |
| 26669 | Kellie   | McKibbin | Windsor         |
| 27869 | Gemma    | Smith    | Wessex          |
| 28188 | Sarah    | Heanes   | Whiteknights    |
| 28213 | Samantha | Rooney   | St Patrick's    |
| 28754 | Andrea   | Williams | Sibly           |
| 29538 | Ruth     | Haughton | Private         |

7

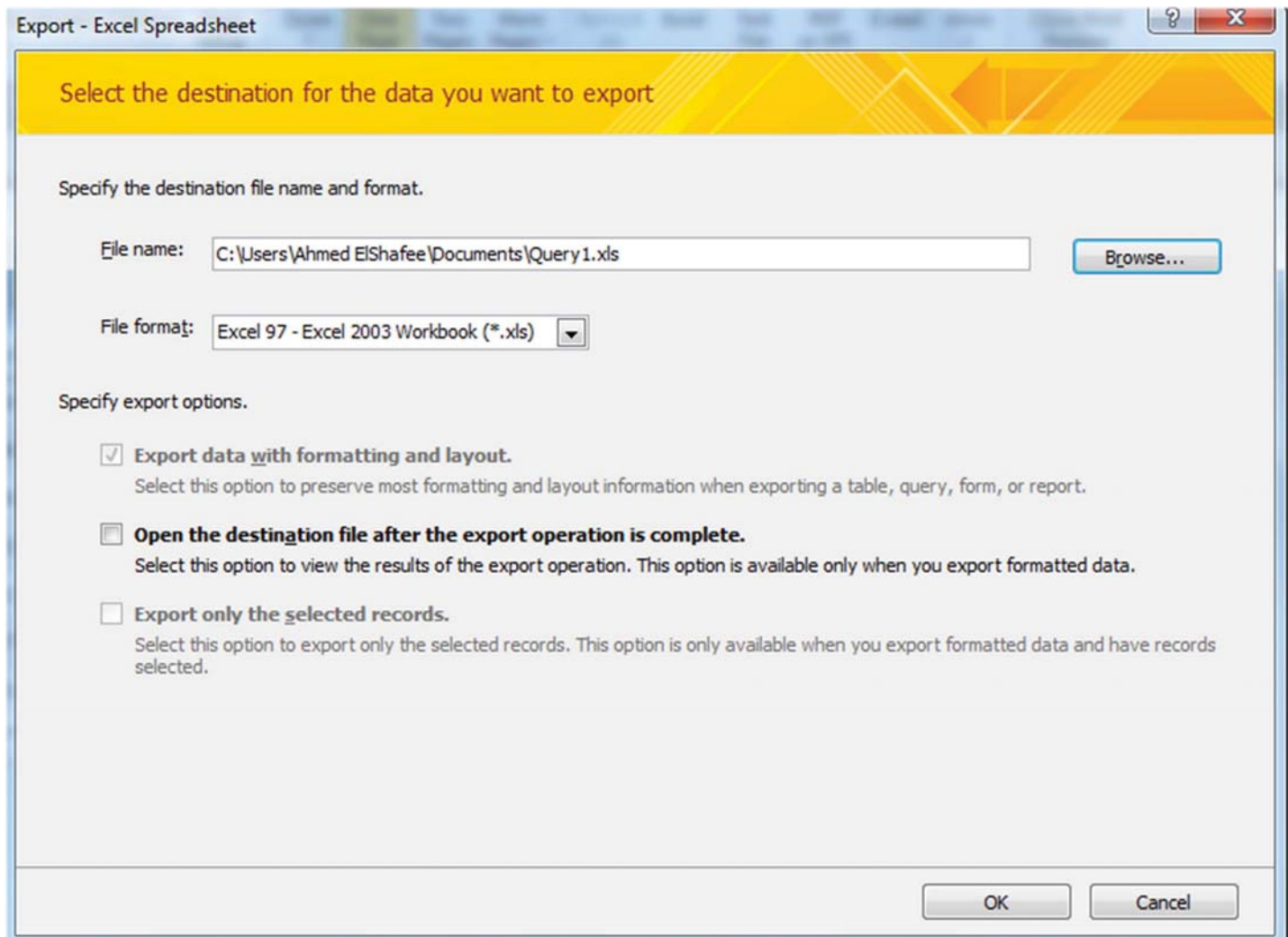
١٤

Dr. Ahmed ElShafee, ACU Fall 2013, Practical Applications  
in CS I



10

Dr. Ahmed ElShafee, ACU Fall 2013, Practical Applications in CS I

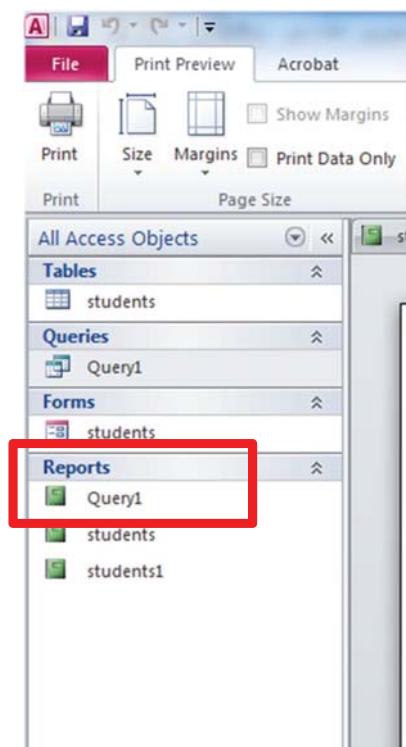
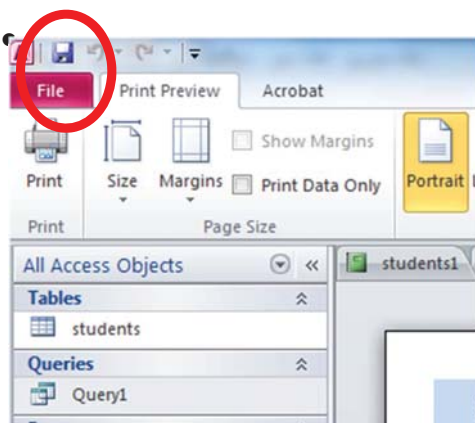


Query1.xls [Compatibility Mode] - Microsoft Excel

|    | A         | B           | C        |                 |
|----|-----------|-------------|----------|-----------------|
| 1  | 41528     | 0.913310185 |          |                 |
| 2  | StudentNo | FirstName   | Surname  | Hall            |
| 3  | 24261     | Bella       | Kingston | Student Village |
| 4  | 26669     | Kellie      | McKibbin | Windsor         |
| 5  | 27869     | Gemma       | Smith    | Wessex          |
| 6  | 28188     | Sarah       | Heanes   | Whiteknights    |
| 7  | 28213     | Samantha    | Rooney   | St Patrick's    |
| 8  | 28754     | Andrea      | Williams | Sibly           |
| 9  | 29538     | Ruth        | Haughton | Private         |
| 10 |           |             |          |                 |

١٧

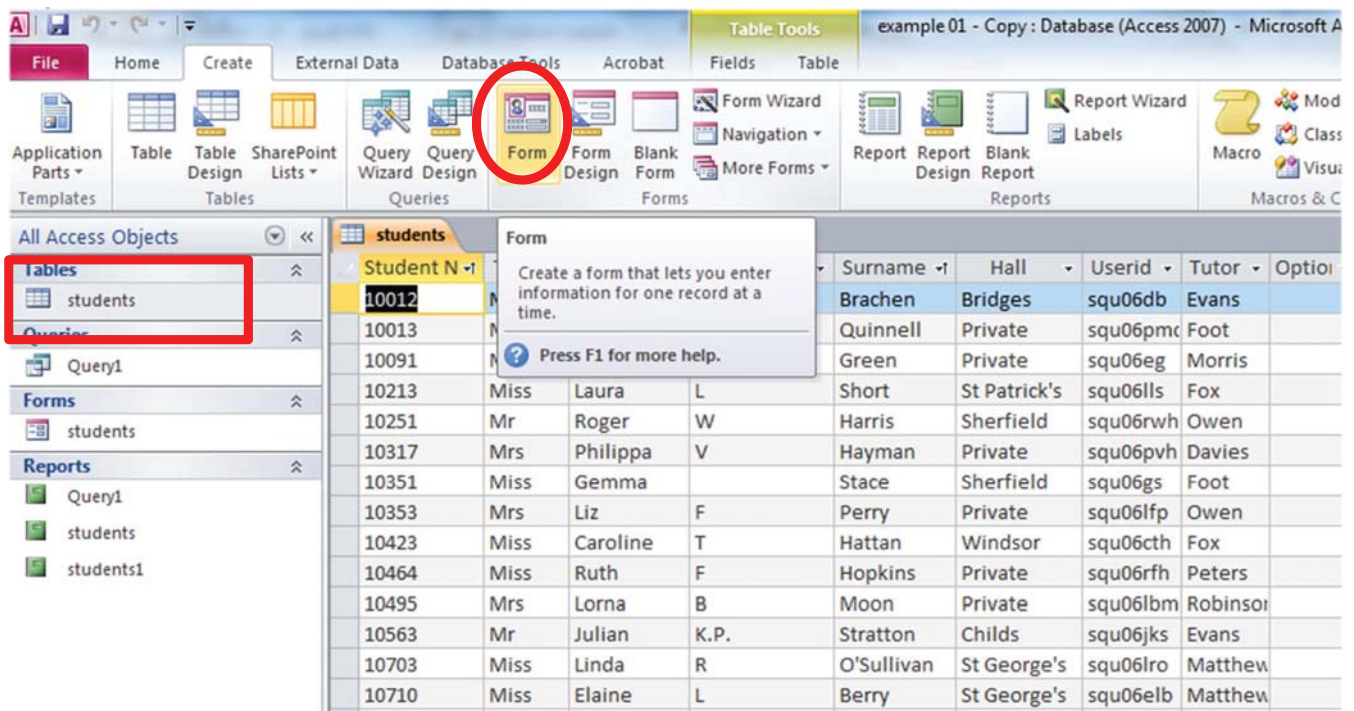
Dr. Ahmed ElShafee, ACU Fall 2013, Practical Applications  
in CS I



١٨

Dr. Ahmed ElShafee, ACU Fall 2013, Practical Applications  
in CS I

# Forms



١٩

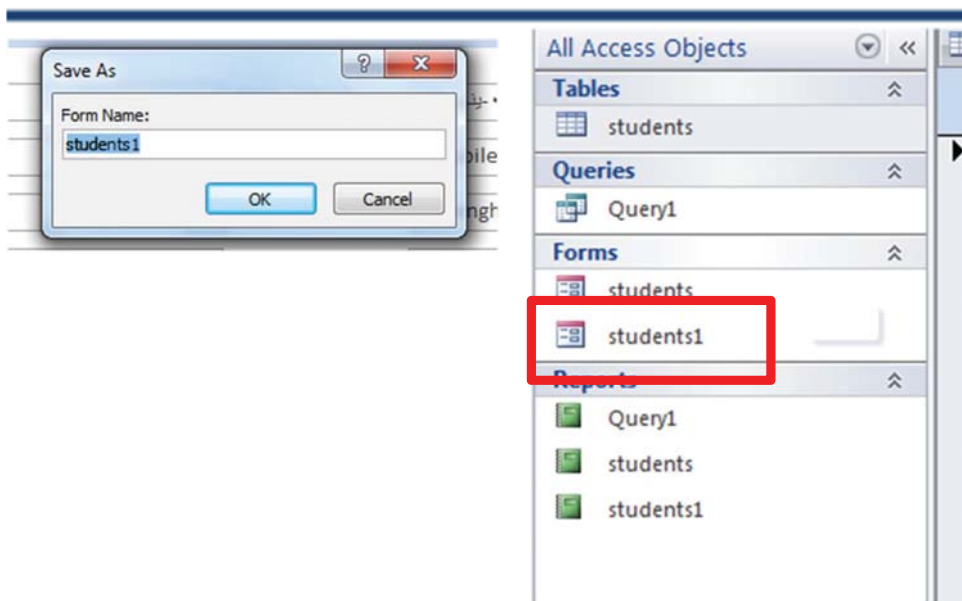
Dr. Ahmed ElShafee, ACU Fall 2013, Practical Applications  
in CS I

The screenshot shows the Microsoft Access 2007 interface with the 'Form Layout Tools' ribbon active. The 'students' form is displayed, showing a grid of fields for student information.

| Student Number | Date of Birth            |
|----------------|--------------------------|
| 10012          | ٨٧ - ٠٣ - ١٩٧٠           |
| Surname        | Brachen                  |
| Street         | 52 Jubilee Road          |
| Title          | Mr                       |
| Town           | Birmingham               |
| First Name     | David                    |
| PostCode       | B11 5FN                  |
| Other Initials |                          |
| Phone          | 0121-720156              |
| Hall           | Bridges                  |
| Overseas       | <input type="checkbox"/> |
| Userid         | squ06db                  |
| Notes          |                          |
| Tutor          | Evans                    |
| Photograph     |                          |
| Option         | 7                        |

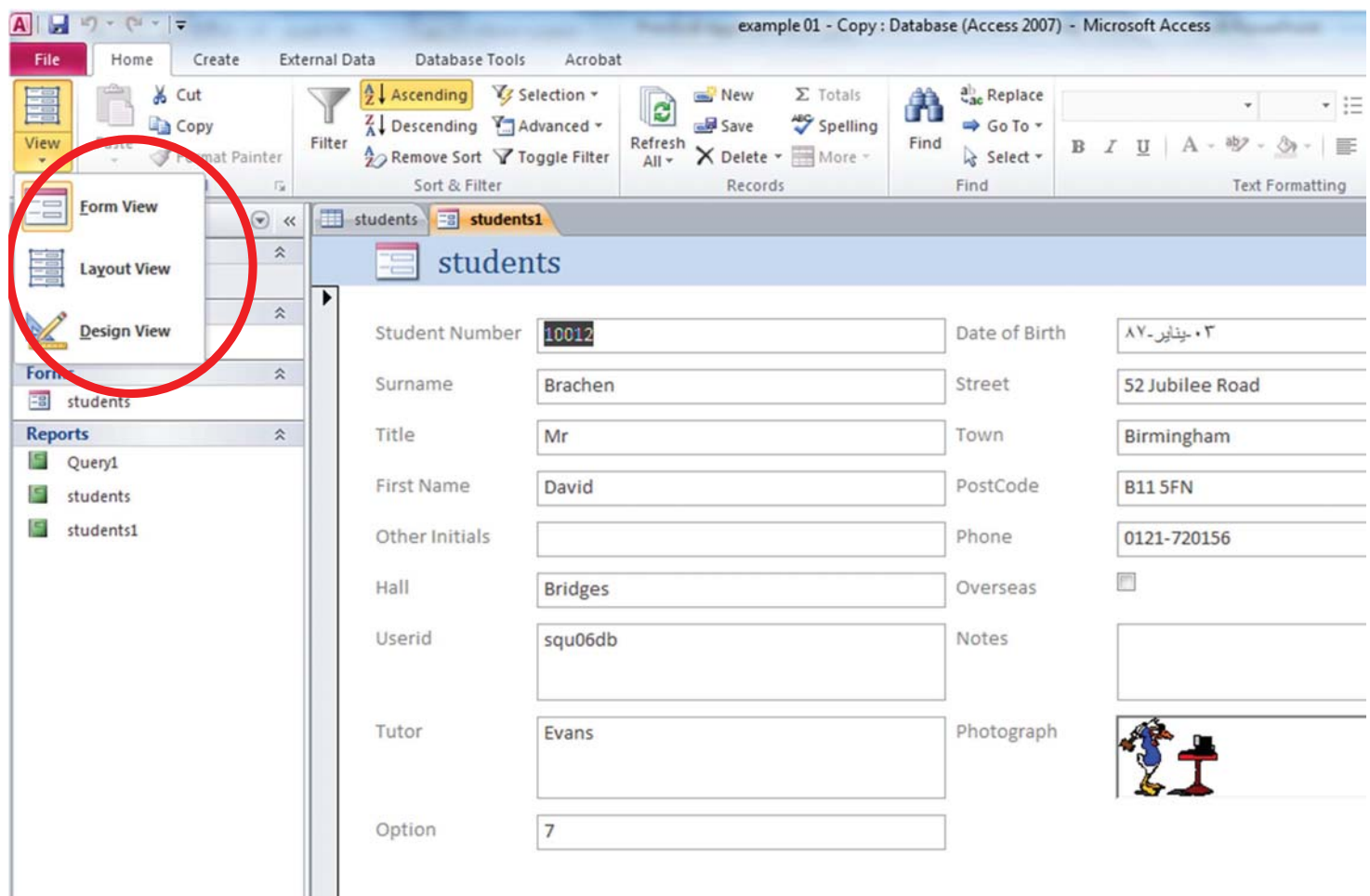
٢٠

in CS I



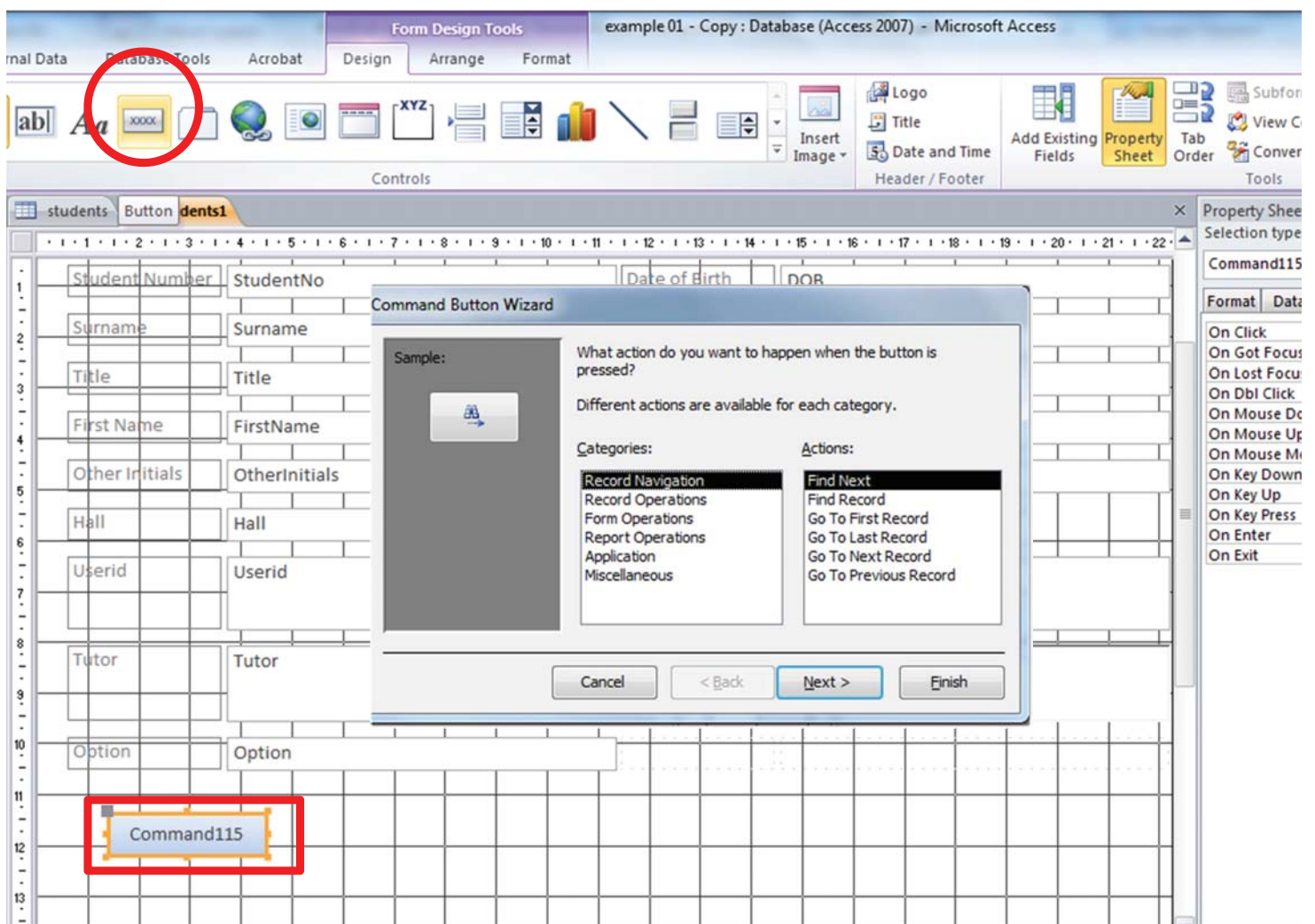
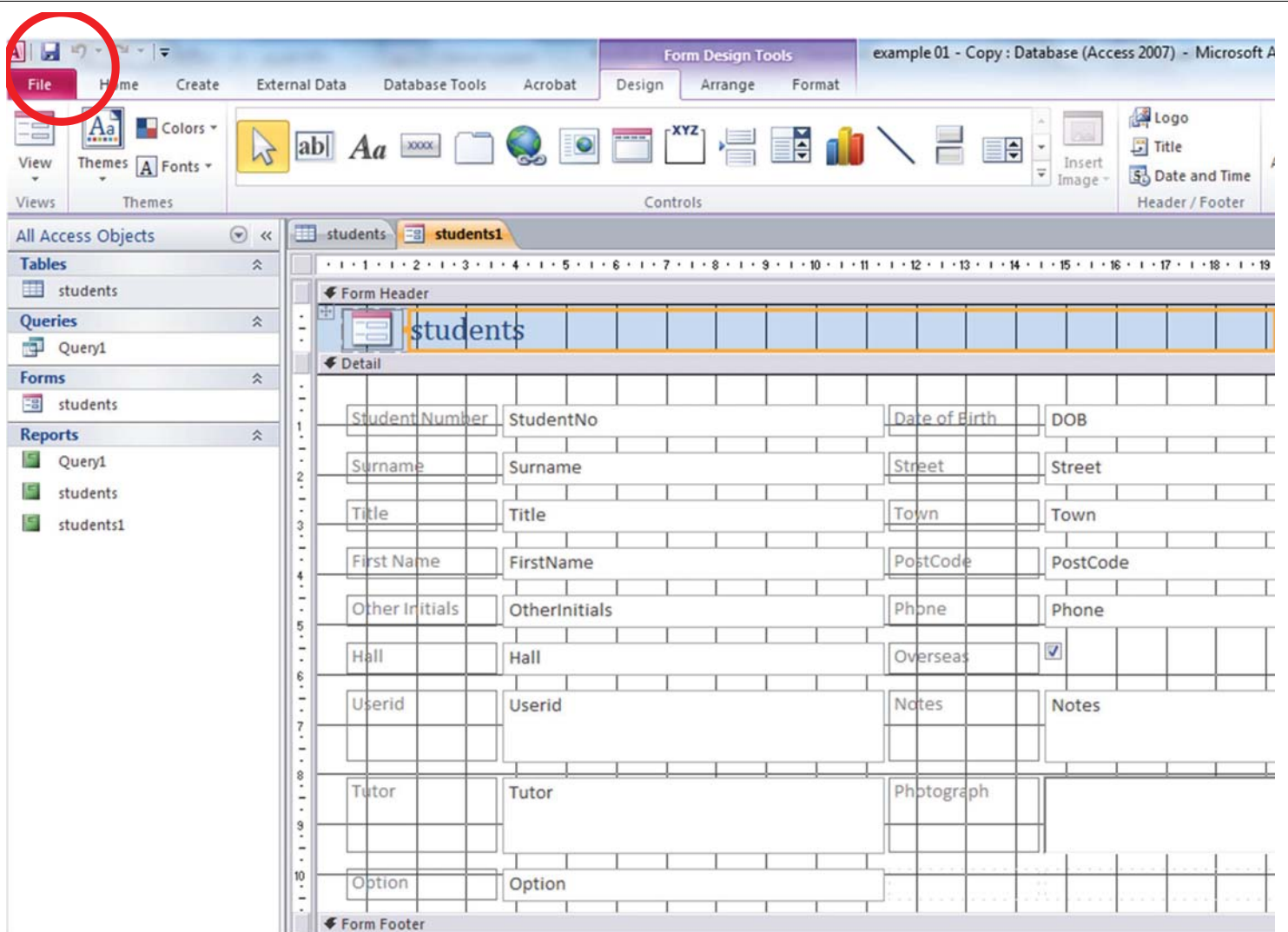
٢١

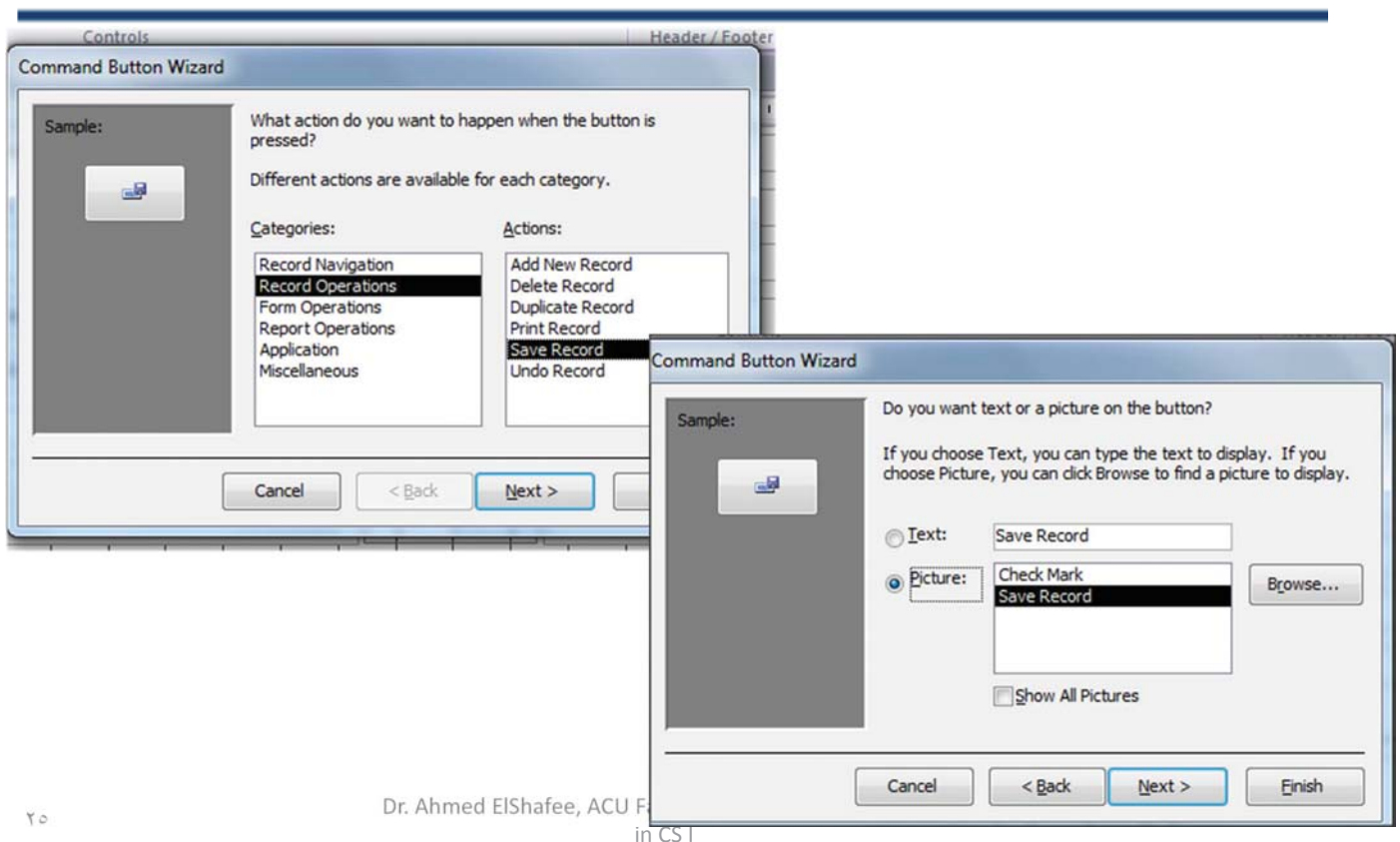
Dr. Ahmed ElShafee, ACU Fall 2013, Practical Applications  
in CS I



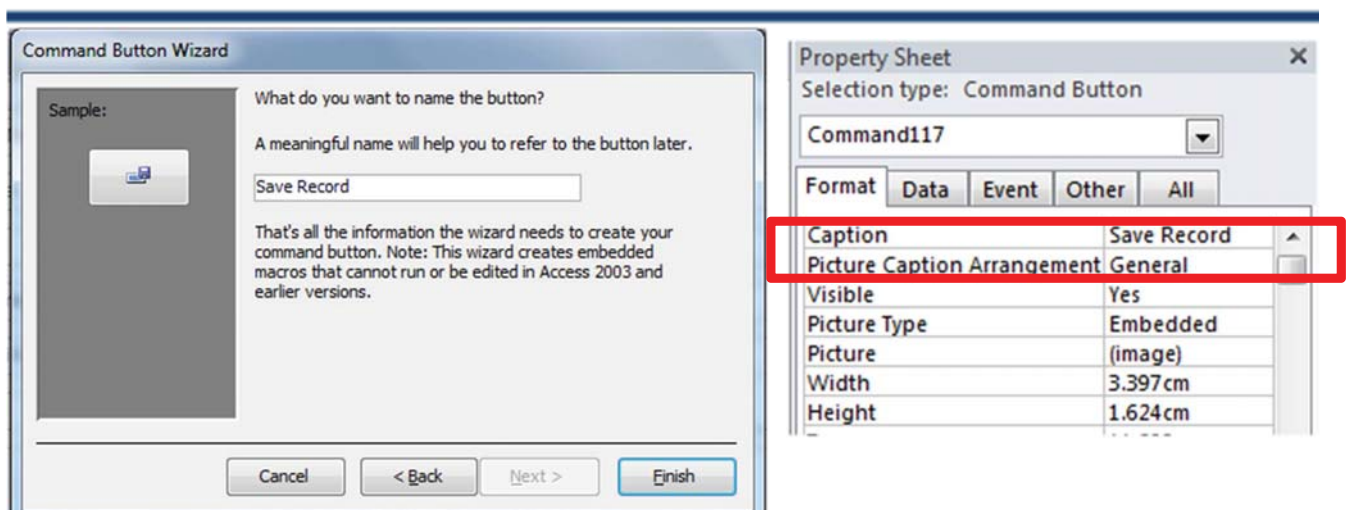
٢٢

Dr. Ahmed ElShafee, ACU Fall 2013, Practical Applications  
in CS I





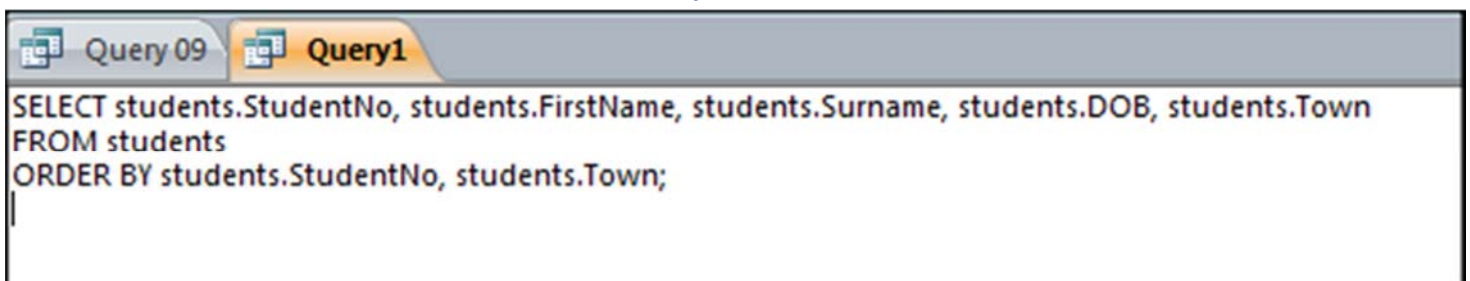
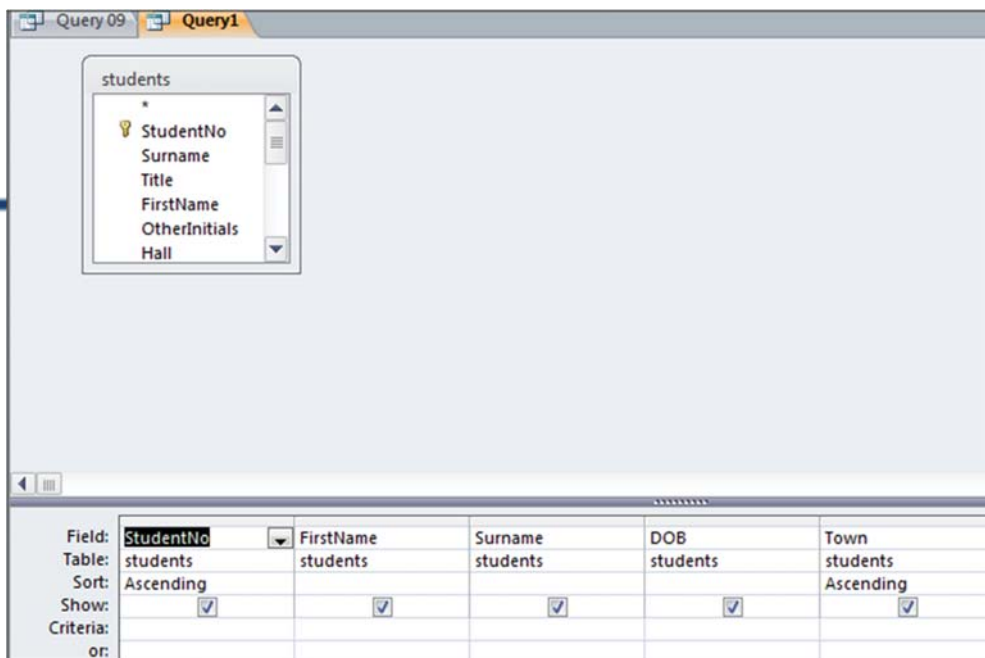
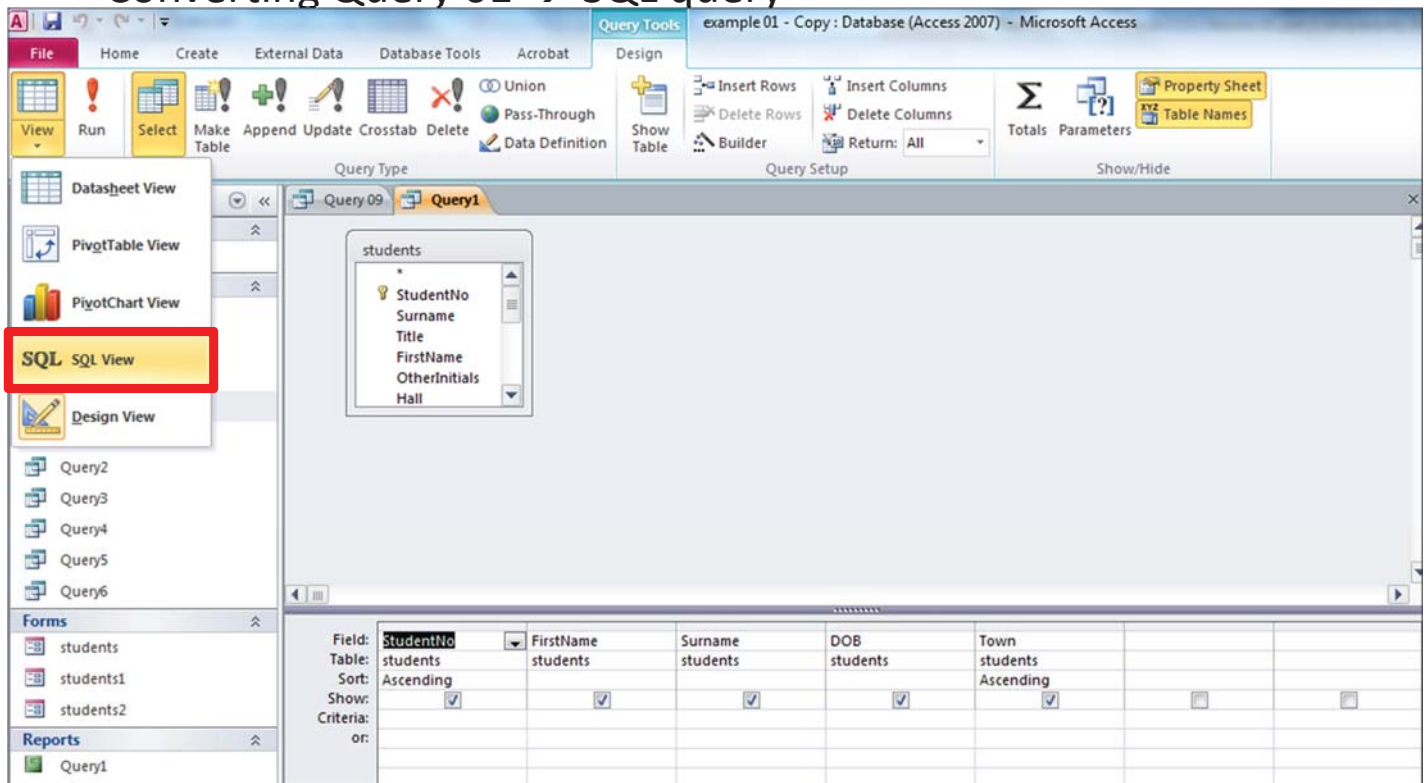
Dr. Ahmed ElShafee, ACU F  
in CS I



Dr. Ahmed ElShafee, ACU Fall 2013, Practical Applications  
in CS I

# SQL Queries

- Converting Query 01 → SQL query



## Converting Query 02 → SQL query

Query 09 Query1 Query2

students

- \* StudentNo
- Surname
- Title
- FirstName
- OtherInitials
- Hall

| Field:    | StudentNo                           | FirstName                           | Surname                             | DOB                                 | Town                                |
|-----------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Table:    | students                            | students                            | students                            | students                            | students                            |
| Sort:     | Ascending                           |                                     |                                     |                                     | Ascending                           |
| Show:     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Criteria: |                                     |                                     |                                     | > #01/01/1985#                      |                                     |



Query 09 Query1 Query2

```
SELECT students.StudentNo, students.FirstName, students.Surname, students.DOB, students.Town
FROM students
WHERE (((students.DOB)>#1/1/1985#))
ORDER BY students.StudentNo, students.Town;
```

## Converting Query 03 → SQL query

Query 09 Query1 Query2 Query3

students

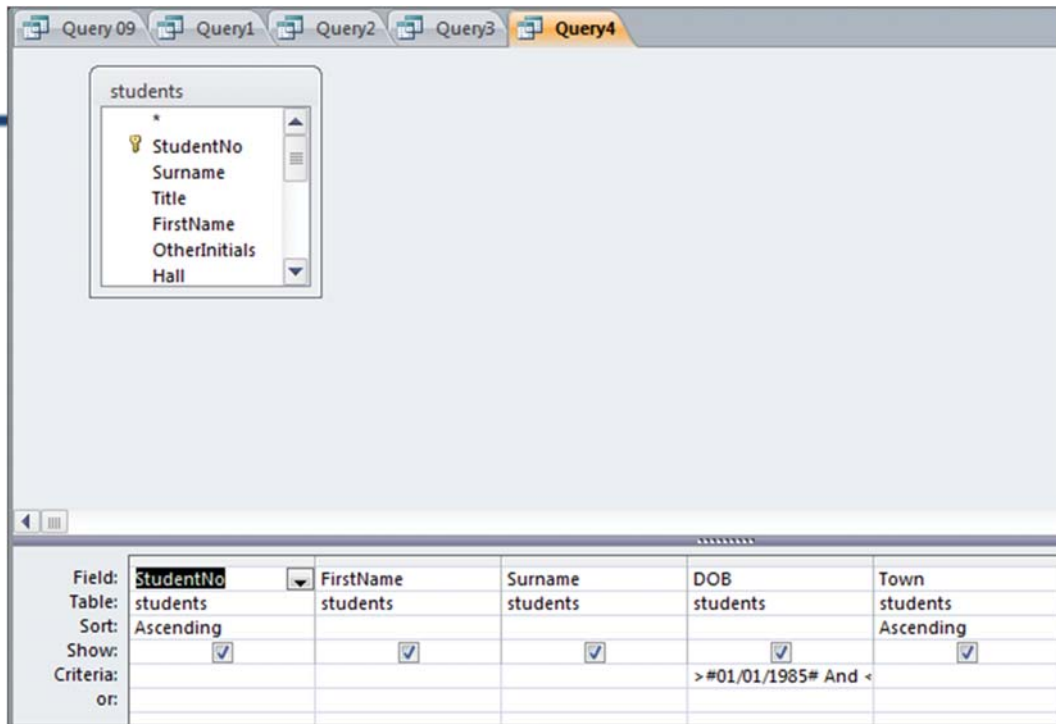
- \* StudentNo
- Surname
- Title
- FirstName
- OtherInitials
- Hall

| Field:    | StudentNo                           | FirstName                           | Surname                             | DOB                                 | Town                                |
|-----------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Table:    | students                            | students                            | students                            | students                            | students                            |
| Sort:     |                                     |                                     |                                     |                                     |                                     |
| Show:     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Criteria: |                                     |                                     |                                     | < #01/01/1985#                      |                                     |



```
SELECT students.StudentNo, students.FirstName, students.Surname, students.DOB, students.Town
FROM students
WHERE (((students.DOB)<#1/1/1985#));
```

## Converting Query 04 → SQL query

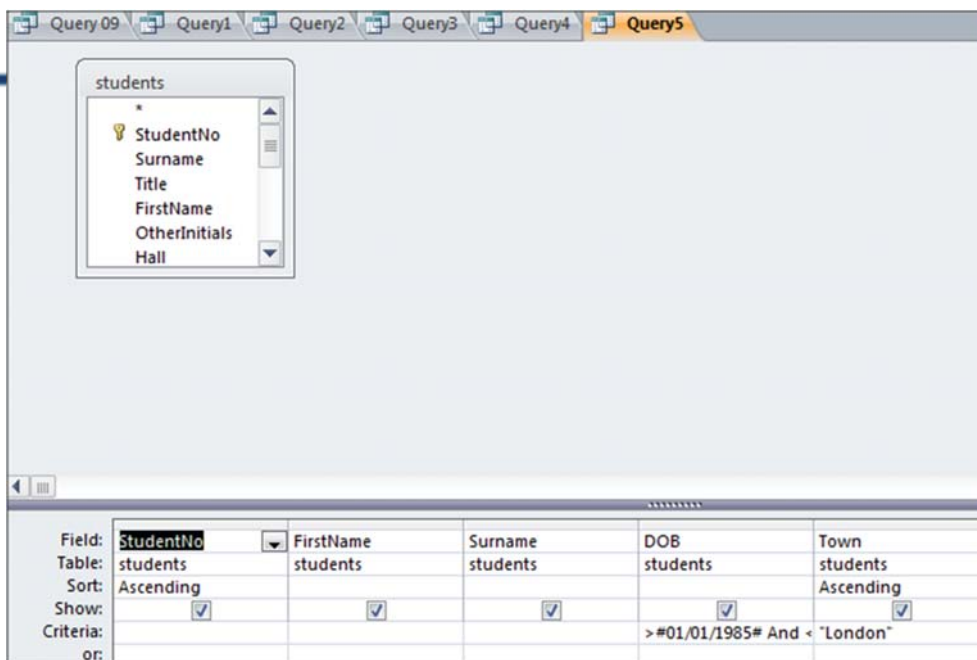


| Field:    | StudentNo                           | FirstName                           | Surname                             | DOB                                 | Town                                |
|-----------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Table:    | students                            | students                            | students                            | students                            | students                            |
| Sort:     | Ascending                           |                                     |                                     |                                     | Ascending                           |
| Show:     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Criteria: |                                     |                                     |                                     | > #01/01/1985# And <                |                                     |
| or:       |                                     |                                     |                                     |                                     |                                     |



```
SELECT students.StudentNo, students.FirstName, students.Surname, students.DOB, students.Town
FROM students
WHERE (((students.DOB)>#1/1/1985# And (students.DOB)<#12/31/1985#))
ORDER BY students.StudentNo, students.Town;
```

## Converting Query 05 → SQL query



| Field:    | StudentNo                           | FirstName                           | Surname                             | DOB                                 | Town                                |
|-----------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Table:    | students                            | students                            | students                            | students                            | students                            |
| Sort:     | Ascending                           |                                     |                                     |                                     | Ascending                           |
| Show:     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Criteria: |                                     |                                     |                                     | > #01/01/1985# And < #12/31/1985#   | = "London"                          |
| or:       |                                     |                                     |                                     |                                     |                                     |



```
SELECT students.StudentNo, students.FirstName, students.Surname, students.DOB, students.Town
FROM students
WHERE (((students.DOB)>#1/1/1985# And (students.DOB)<#12/31/1985#) AND ((students.Town)="London"))
ORDER BY students.StudentNo, students.Town;
```

## Converting Query 06 → SQL query

Query 09 Query1 Query2 Query3 Query4 Query5 Query6

students

- \* StudentNo
- Surname
- Title
- FirstName
- OtherInitials
- Hall

| Field:    | StudentNo                           | FirstName                           | Surname                             | DOB                                 | Town                                | Userid                   |
|-----------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|
| Table:    | students                            | students                            | students                            | students                            | students                            | students                 |
| Sort:     | Ascending                           |                                     |                                     |                                     | Ascending                           |                          |
| Show:     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Criteria: |                                     |                                     |                                     |                                     |                                     | Like "*08*"              |



```
SELECT students.StudentNo, students.FirstName, students.Surname, students.DOB, students.Town
FROM students
WHERE (((students.Userid) Like "*08*"))
ORDER BY students.StudentNo, students.Town;
```

## Converting Query 07 → SQL query

Query 09 Query1 Query2 Query3 Query4 Query5 Query6 Query 07

students

- \* StudentNo
- Surname
- Title
- FirstName
- OtherInitials
- Hall

| Field:    | StudentNo                           | FirstName                           | Surname                             | DOB                                 | Town                                | Userid                   |
|-----------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|
| Table:    | students                            | students                            | students                            | students                            | students                            | students                 |
| Sort:     | Ascending                           |                                     |                                     |                                     | Ascending                           |                          |
| Show:     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Criteria: |                                     |                                     |                                     |                                     |                                     | Like "*08*"              |



```
SELECT students.StudentNo, students.FirstName, students.Surname, students.DOB, students.Town
FROM students
WHERE (((students.Userid) Like "*08*"))
ORDER BY students.StudentNo, students.Town;
```

## Converting Query 08 → SQL query

| Field:    | StudentNo                           | FirstName                           | Surname                             | DOB                                 | Town                                | Userid                   |
|-----------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|
| Table:    | students                            | students                            | students                            | students                            | students                            | students                 |
| Sort:     | Ascending                           |                                     |                                     |                                     | Ascending                           |                          |
| Show:     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Criteria: |                                     |                                     |                                     | > #01/01/1985# And < #12/31/1985#   |                                     | Like "*08*"              |



```
SELECT students.StudentNo, students.FirstName, students.Surname, students.DOB, students.Town
FROM students
WHERE (((students.DOB)>#1/1/1985# And (students.DOB)<#12/31/1985#) AND ((students.Userid) Like "*08*"))
ORDER BY students.StudentNo, students.Town;
```

in CS I

## Converting Query 09 → SQL query

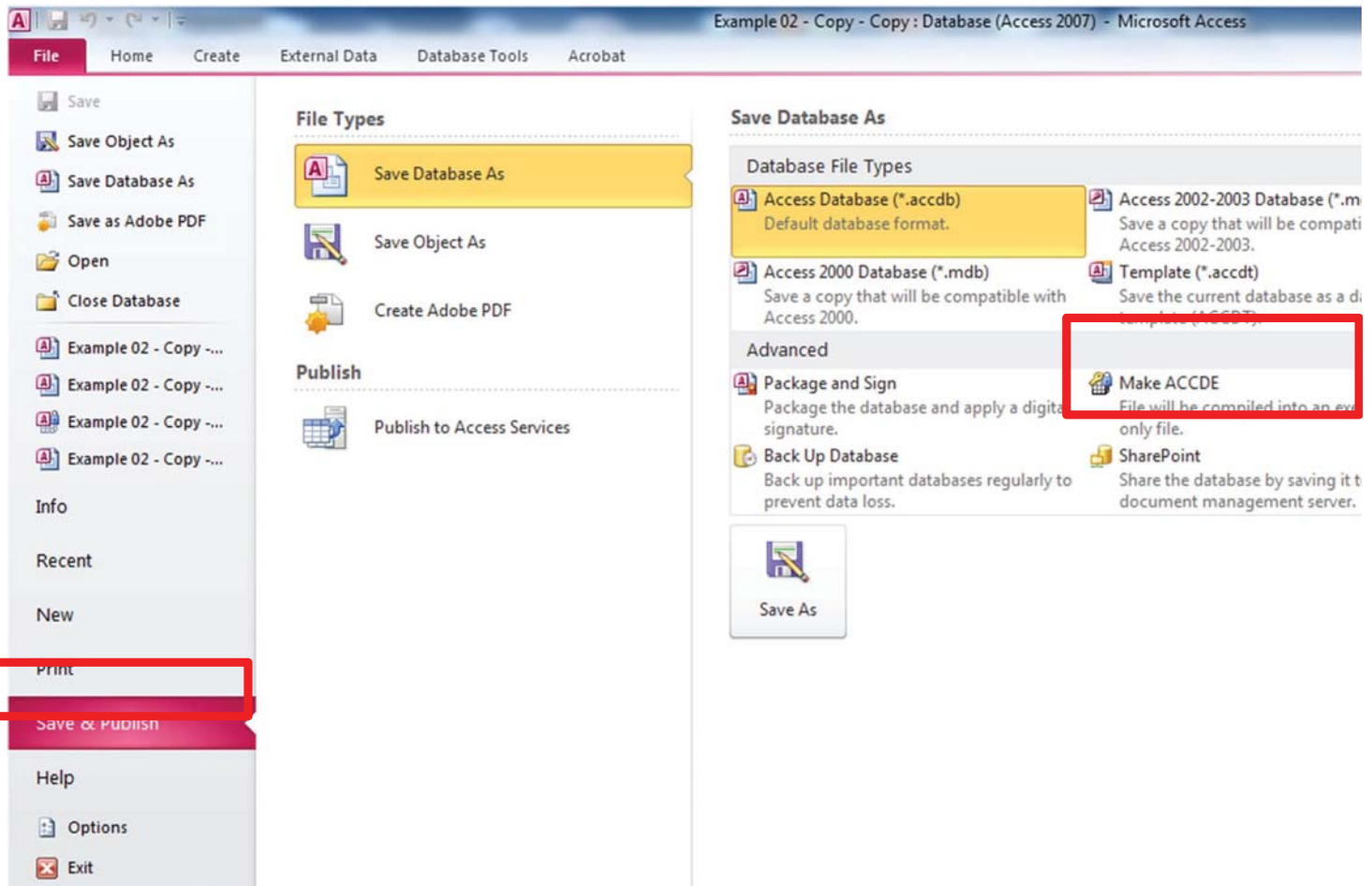
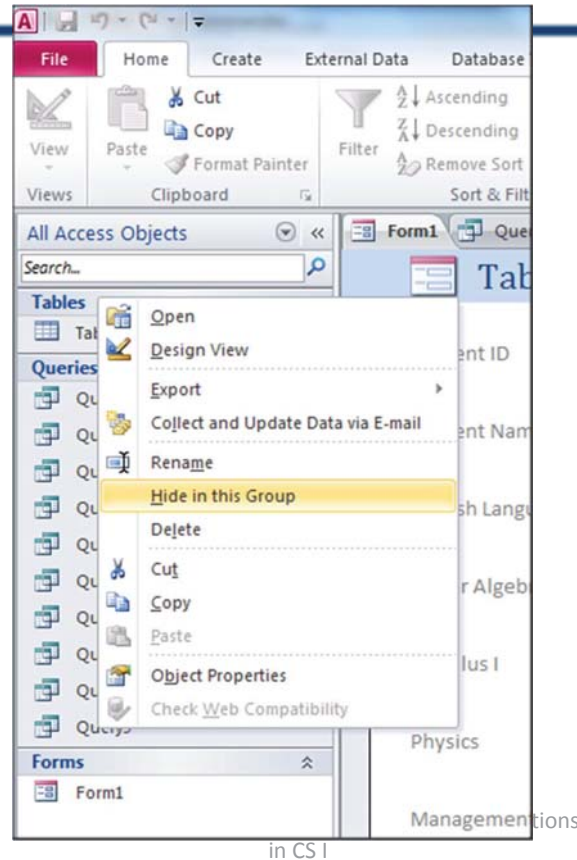
| Field:    | StudentNo                           | FirstName                           | Surname                             | DOB                                 | Town                                | Userid                   | Tutor                    |
|-----------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------|
| Table:    | students                            | students                            | students                            | students                            | students                            | students                 | students                 |
| Sort:     | Ascending                           |                                     |                                     |                                     | Ascending                           |                          |                          |
| Show:     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Criteria: |                                     |                                     |                                     |                                     |                                     | Like "*08*"              | = "Fox"                  |

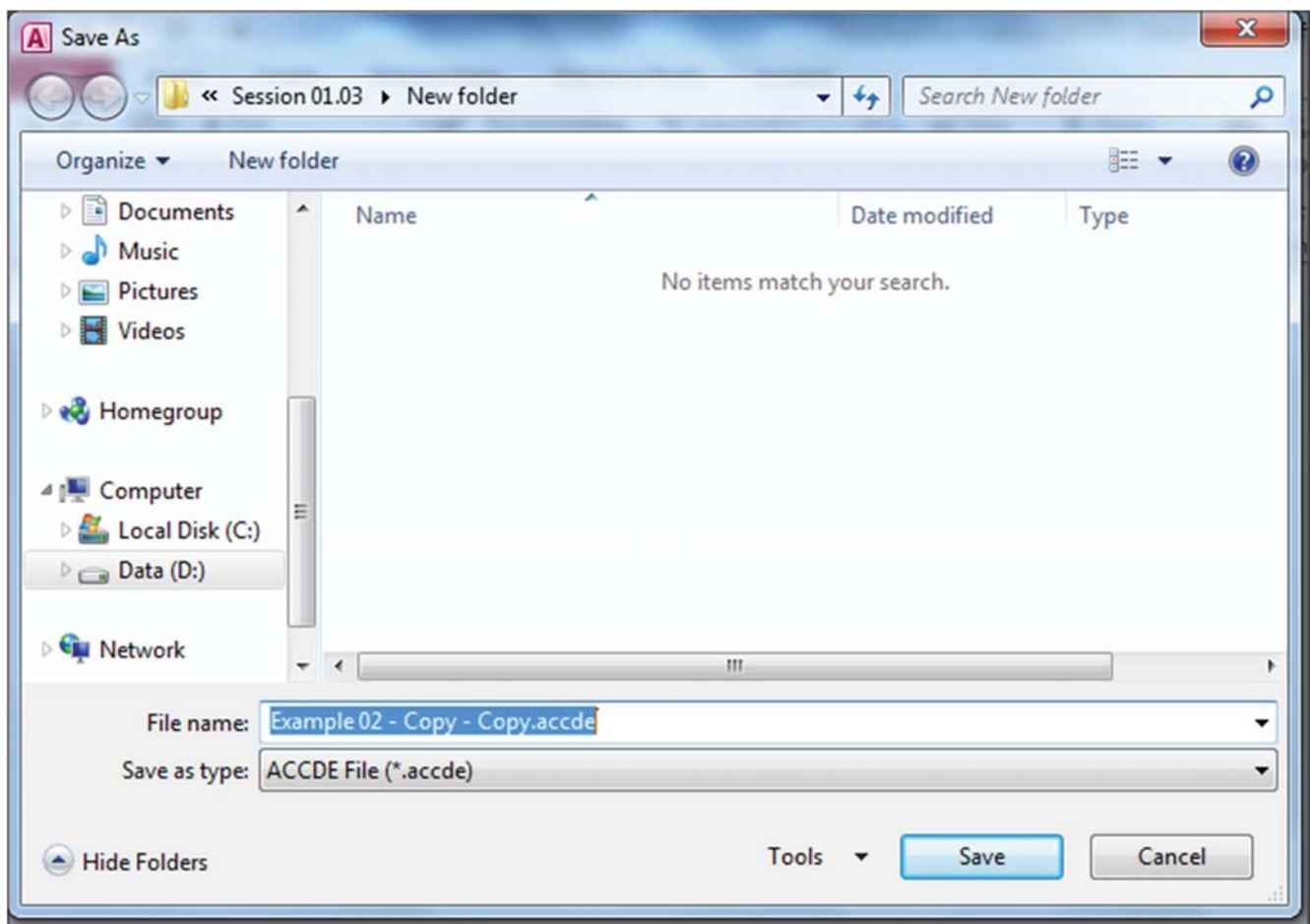


```
SELECT students.StudentNo, students.FirstName, students.Surname, students.DOB, students.Town
FROM students
WHERE (((students.Userid) Like "*08*") AND ((students.Tutor)= "Fox"))
ORDER BY students.StudentNo, students.Town;
```

in CS I

# Publishing your work





٣٩

Dr. Ahmed ElShafee, ACU Fall 2013, Practical Applications  
in CS I

## Assignment

- Create report displays students and their courses result
- Create report displays students and their CH, GPA
- Create a form to display and student results.
- Add the following buttons
  - Add record
  - Save record
  - Delete record
  - Find record
  - Next record
  - Last record
- Build executable database (contains only forms and reports)

٤١

Dr. Ahmed ElShafee, ACU Fall 2013, Practical Applications  
in CS I

Example 02 - Copy - Copy: Database (Access 2007) - Microsoft Access

File Home Create External Data Database Tools Acrobat

View Paste Copy Cut Filter Ascending Selection Descending Advanced Refresh New Save Spelling Find Replace Go To Select Text Formatting

All Access Objects Search... Forms Form1

Form1 Table1

|                                       |                   |                                  |                  |
|---------------------------------------|-------------------|----------------------------------|------------------|
| Student ID                            | 4121001           | Fundamentals of Programming I    | A-               |
| Student Name                          | Amr Ayman Mohamed | Discrete Math                    | A                |
| English Language I                    | A-                | Calculus II                      | A                |
| Linear Algebra I                      | A                 | Introduction to Computer Science | A                |
| Calculus I                            | A                 | Critical ,Creative Thinking      |                  |
| Physics                               | A                 | English Language II              | B+               |
| Management                            | A-                | CH                               | 36               |
| Presentation and Communication Skills | A-                | GPA                              | 3.84166666666667 |
| Electronics                           | A                 |                                  |                  |

<< Previous Record Next Record >>

Record: 1 of 97 No Filter Search

٤٠

Dr. Ahmed ElShafee, ACU Fall 2013, Practical Applications  
in CS I

Table1

|                                       |                   |                                  |                  |
|---------------------------------------|-------------------|----------------------------------|------------------|
| Student ID                            | 4121001           | Fundamentals of Programming I    | A-               |
| Student Name                          | Amr Ayman Mohamed | Discrete Math                    | A                |
| English Language I                    | A-                | Calculus II                      | A                |
| Linear Algebra I                      | A                 | Introduction to Computer Science | A                |
| Calculus I                            | A                 | Critical ,Creative Thinking      |                  |
| Physics                               | A                 | English Language II              | B+               |
| Management                            | A-                | CH                               | 36               |
| Presentation and Communication Skills | A-                | GPA                              | 3.84166666666667 |
| Electronics                           | A                 |                                  |                  |

<< Previous Record Next Record >>

Find Record Save Record Add Record Delete Record

٤١

Dr. Ahmed ElShafee, ACU Fall 2013, Practical Applications  
in CS I

---

Thanks,..  
See you next week (ISA),...