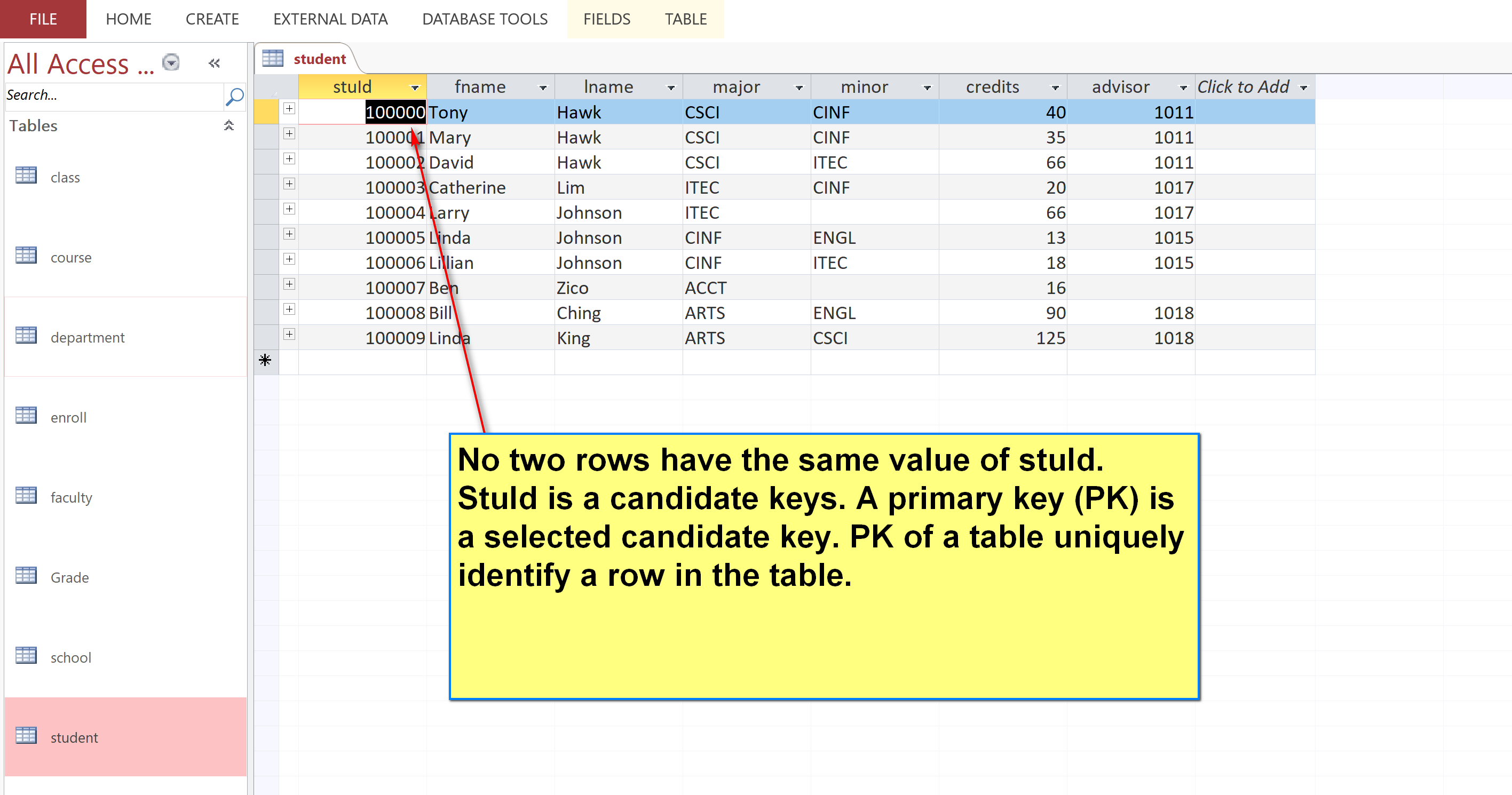
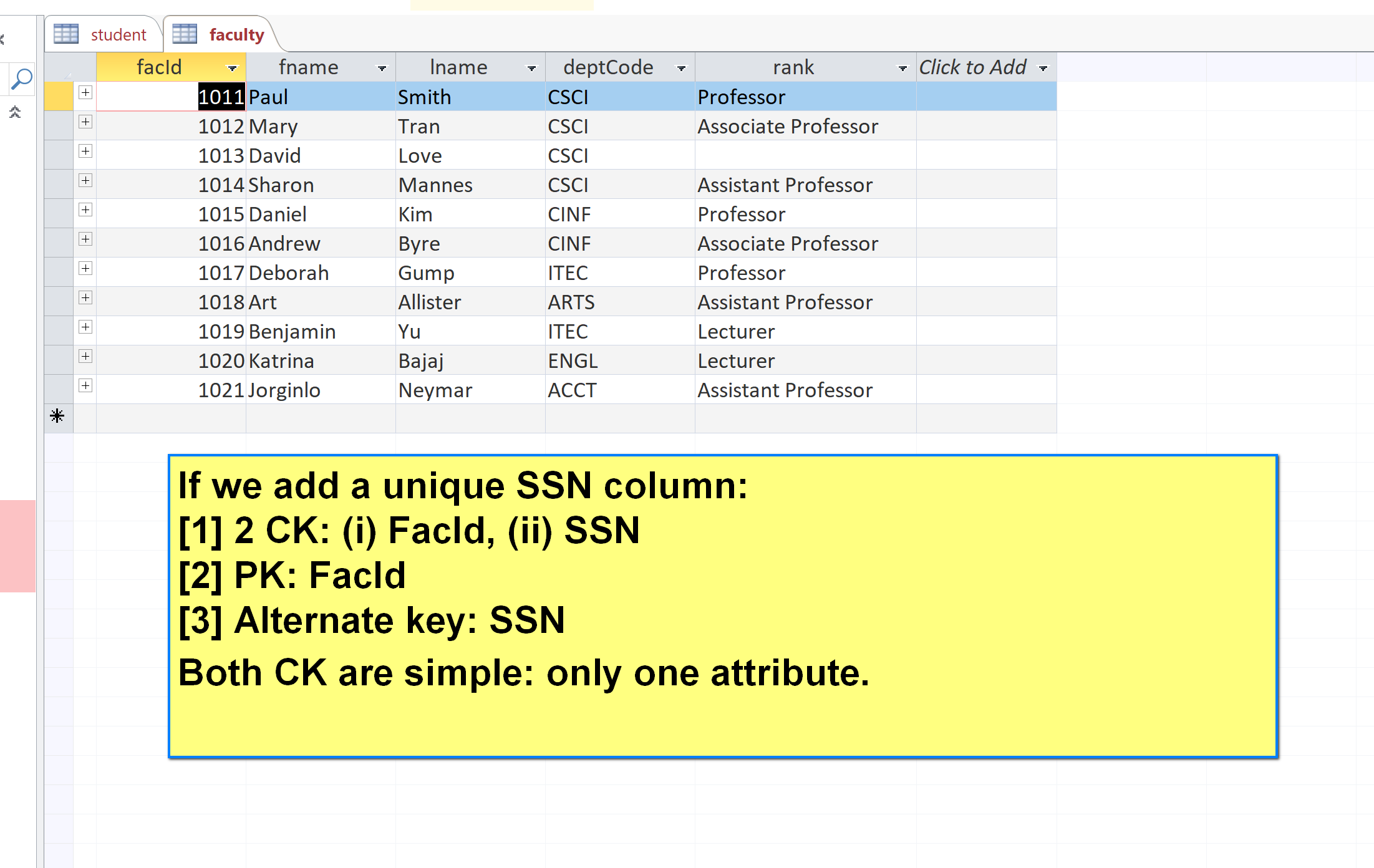
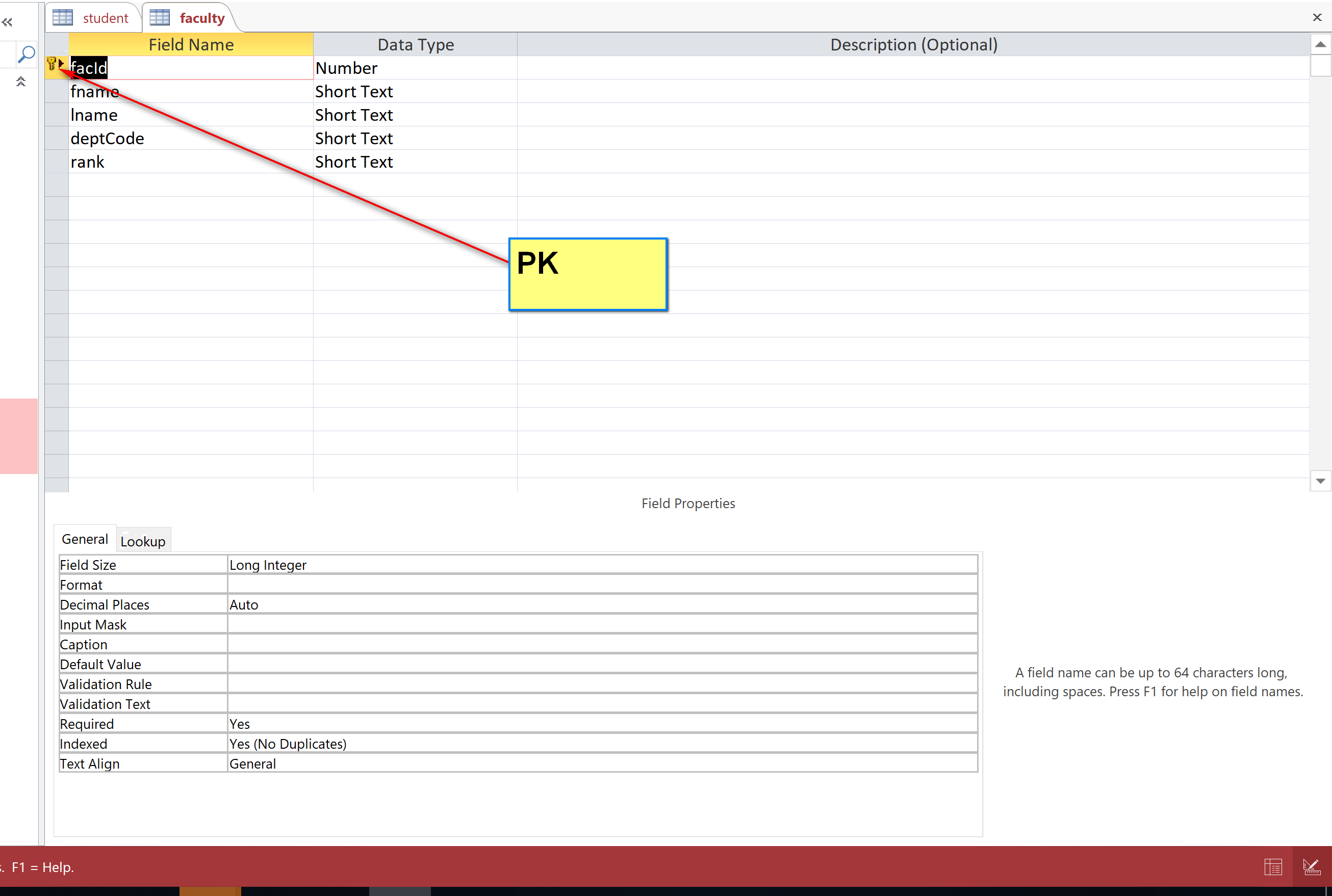
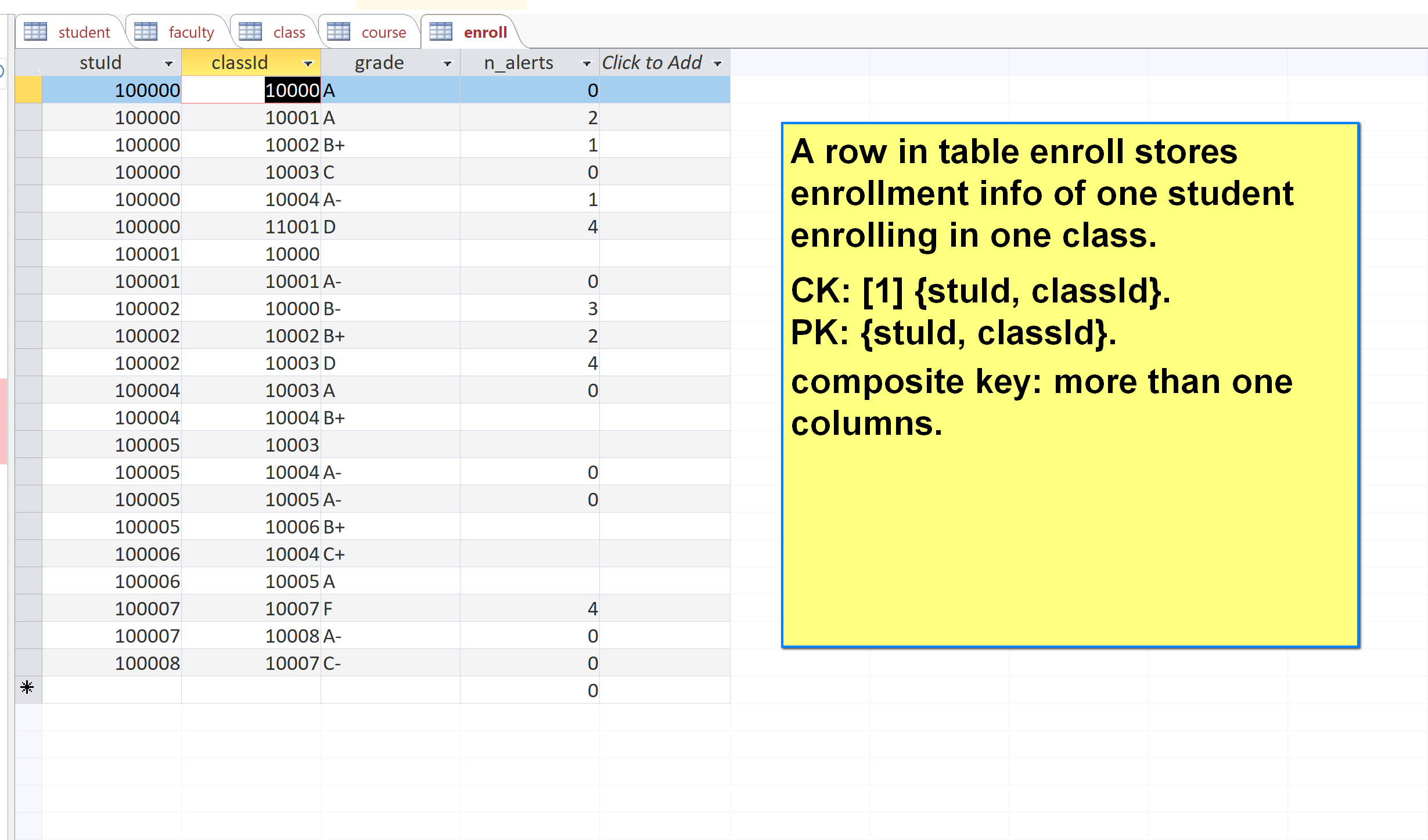
**9/4/2019**









In student:

| **student** | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **stuId** | **fname** | **lname** | **major** | **minor** | **credits** | **advisor** |
| 100000 | Tony | Hawk | CSCI | CINF | 40 | 1011 |

Tony Hawk has advisor 1011.

In faculty:

| **faculty** | | | | |
| --- | --- | --- | --- | --- |
| **facId** | **fname** | **lname** | **deptCode** | **rank** |
| 1011 | Paul | Smith | CSCI | Professor |

1011 (facId) is Paul Smith.

Name of student and advisor (data problem):

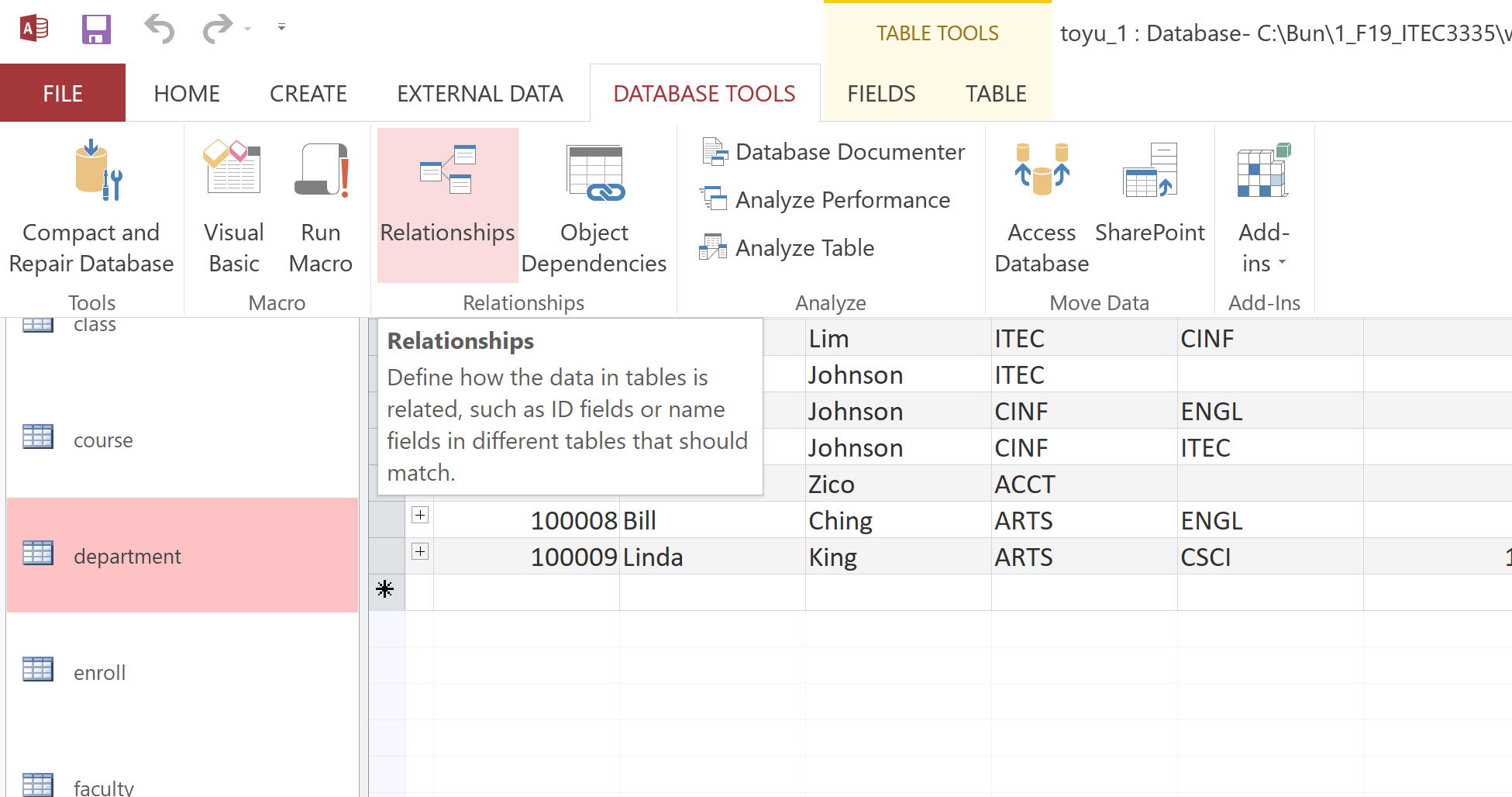
Tony Hawk: Paul Smith.

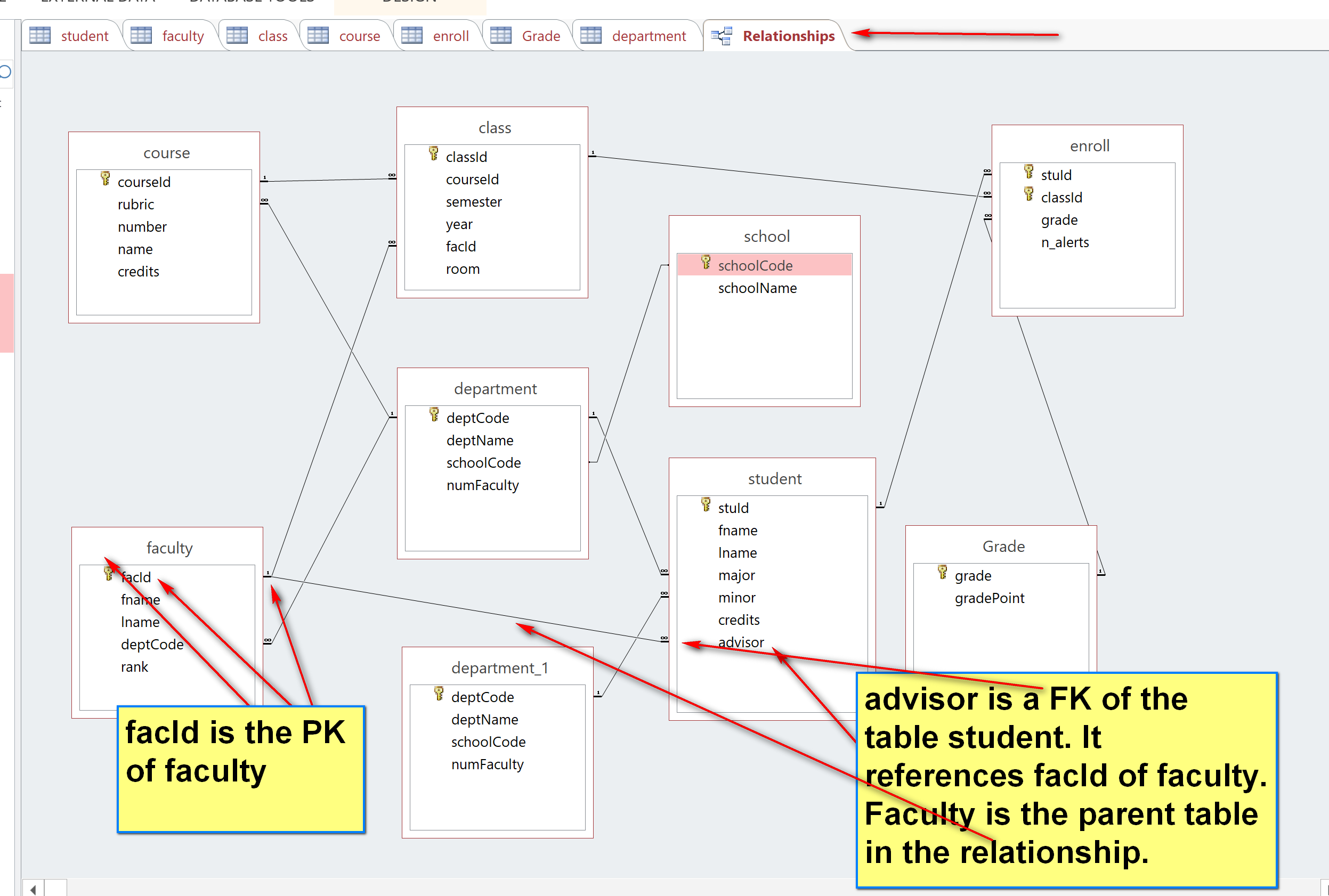
Faculty: facId is PK.

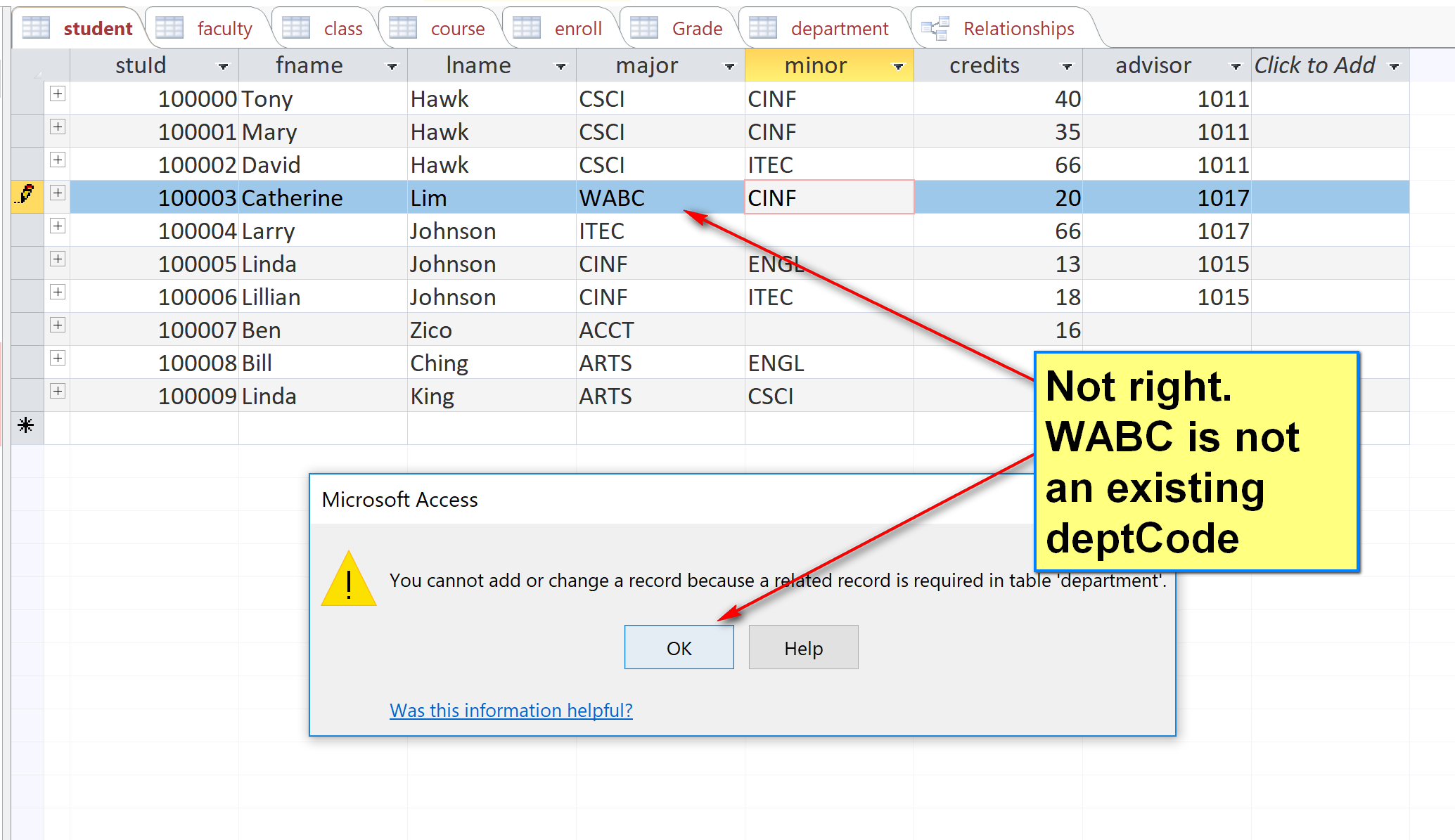
Student(Advisor: foreign key, FK) references faculty(facId) (parent table: PK)

FK links table together.

Relationship:







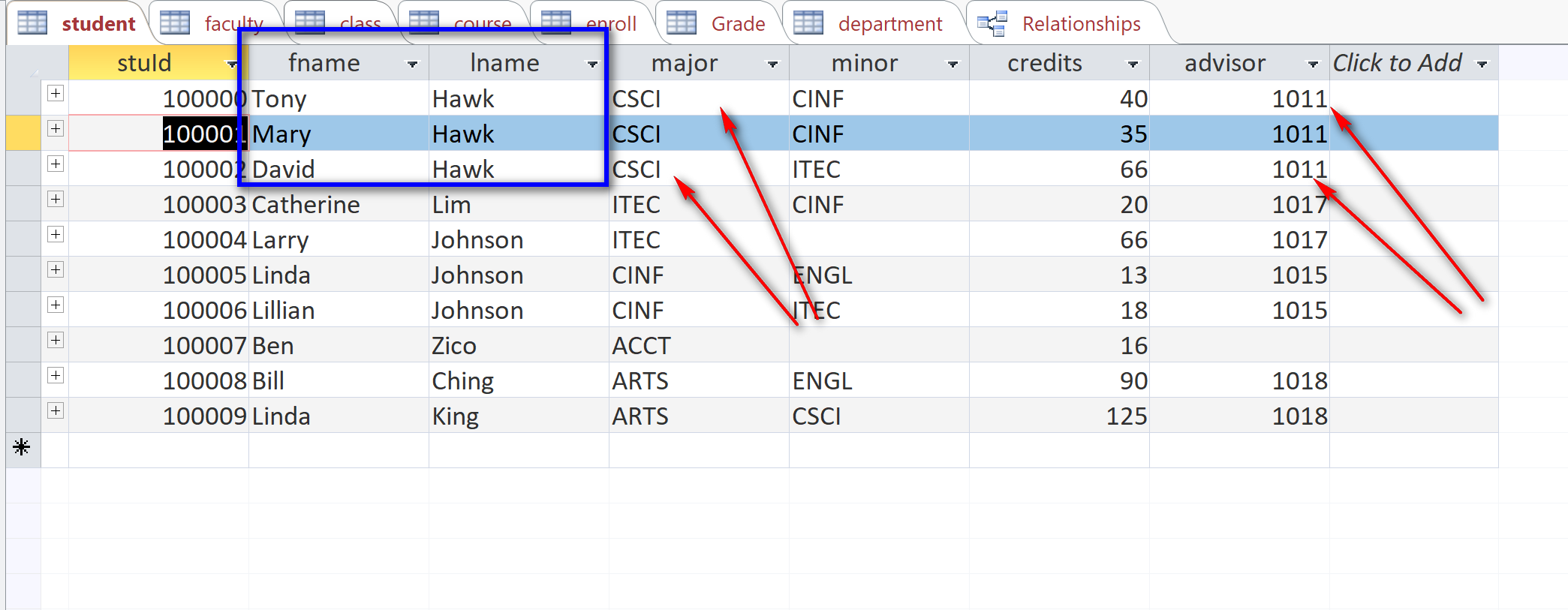
Referential integrity: DBMS mostly support it.

Data problem:

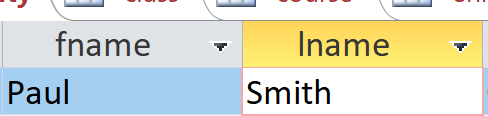
Query (SQL) -> Data to solve problem

Ex. Data Problem: Names of students and their advisor names of all CSCI major.

Step #1: Expected Results:



Facid = 1011



Three rows:

Step 2: Analysis:

[1] Output columns:

1. Student: fname, lname.
2. Faculty: fname, lname.

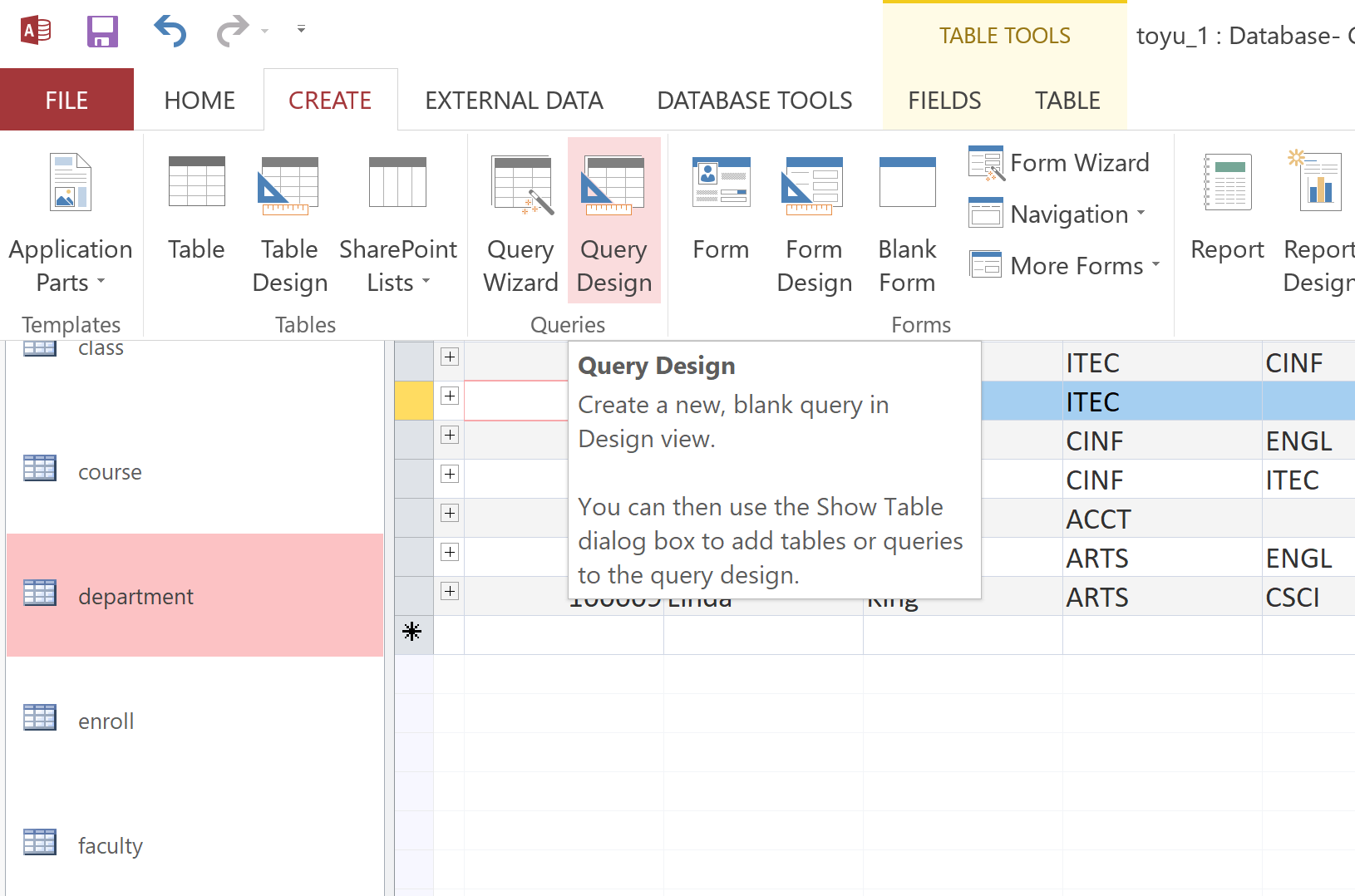
[2] Sources: Student, Faculty.

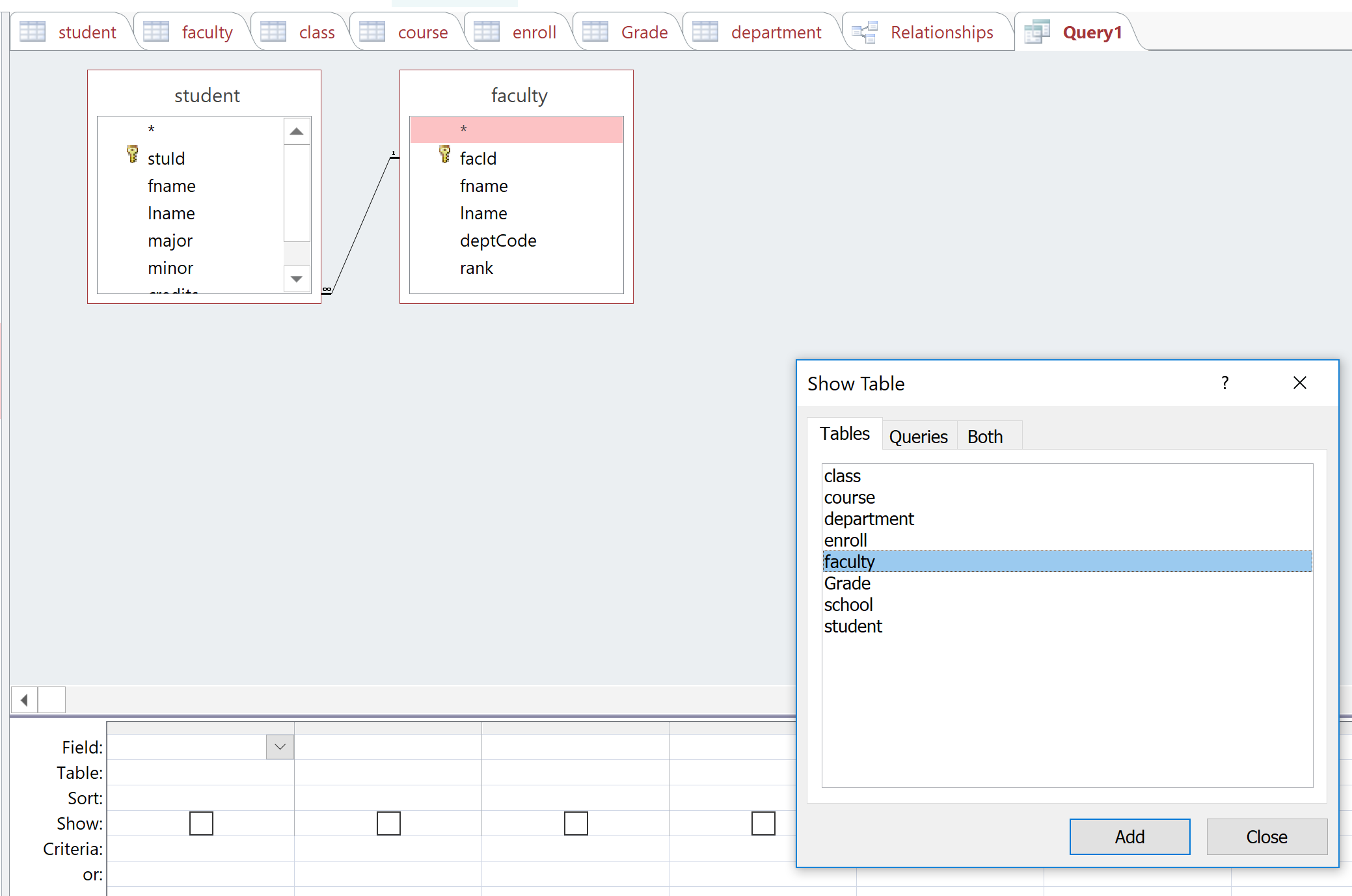
[3] Conditions:

* Problem condition: student.major = ‘CSCI’
* Join condition: student.advisor (FK in student) = faculty.facId (PK in the parent faculty table)

Step 3: implementation

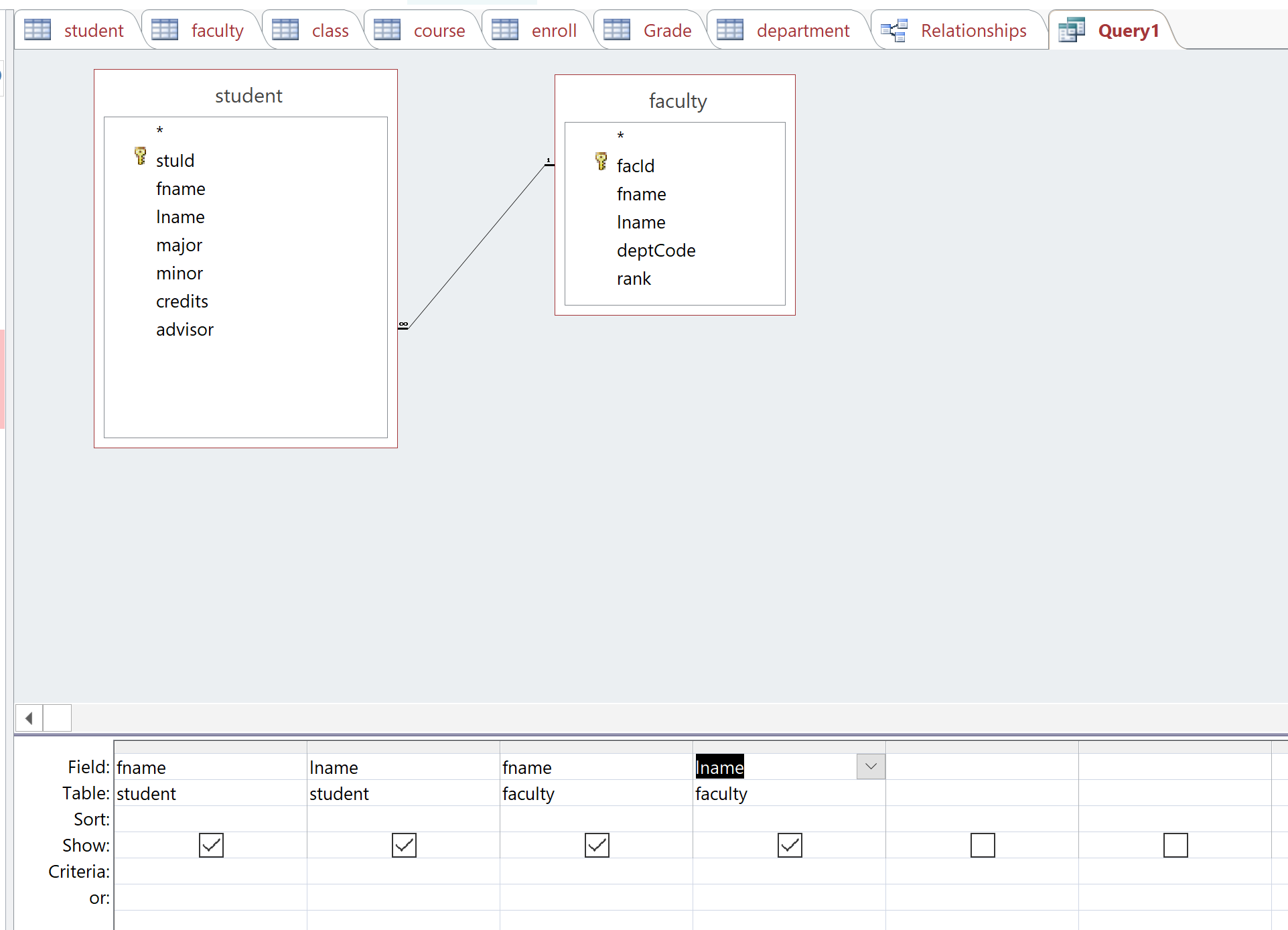
[2] Sources: Student, Faculty.





[1] Output columns:

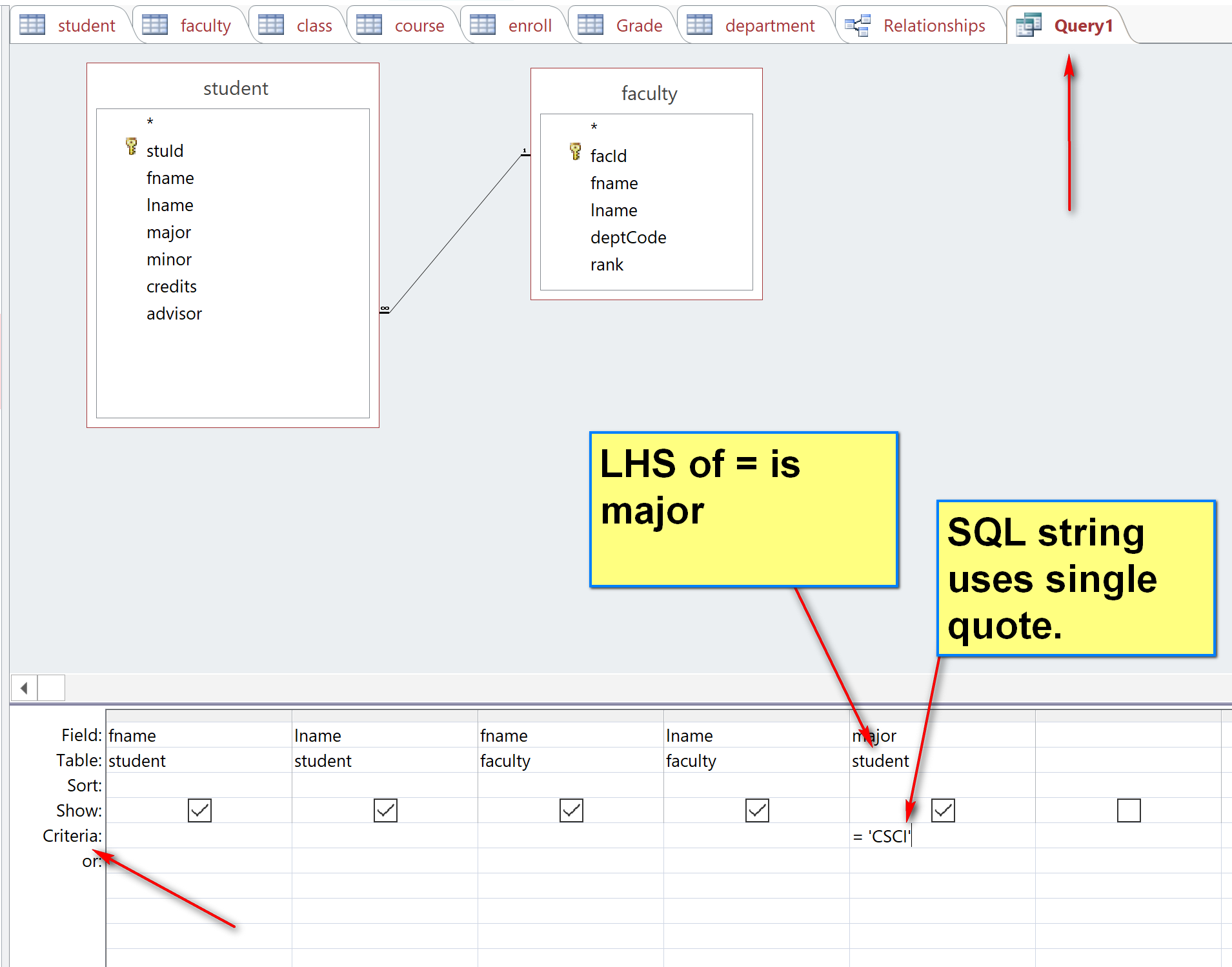
1. Student: fname, lname.
2. Faculty: fname, lname.



[3] Conditions:

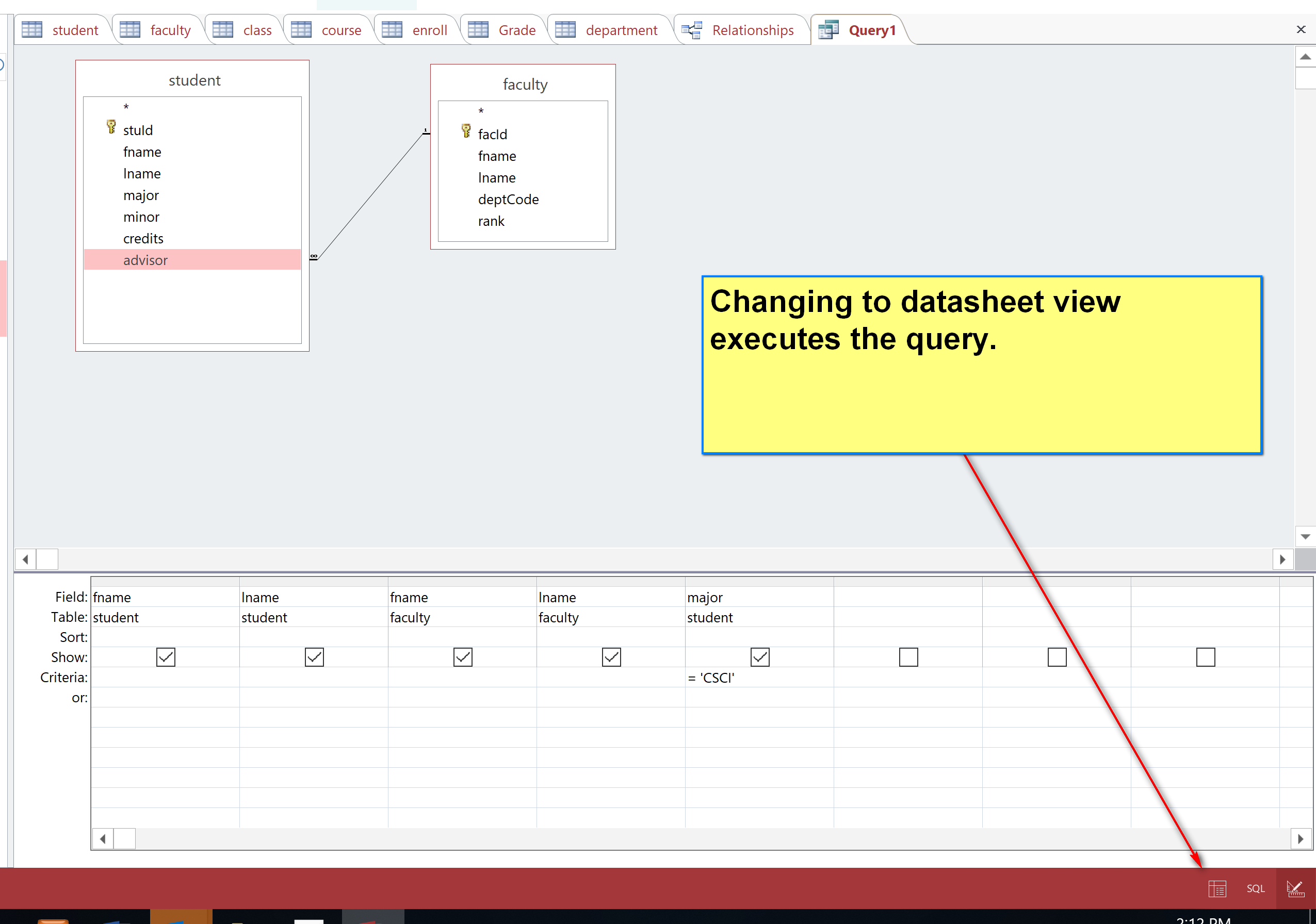
1. Problem condition: student.major = ‘CSCI’
2. Join condition: student.advisor (FK in student) = faculty.facId (PK in the parent faculty table)

3.1:

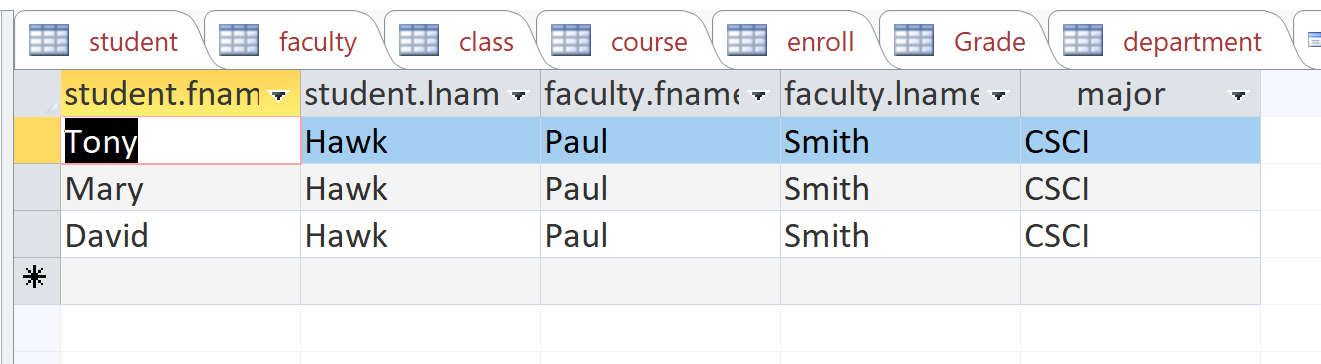


3.2 Join condition: student.advisor (FK in student) = faculty.facId (PK in the parent faculty table)

Automatically done by MS Access.



Actual result has an extra column: major.



Uncheck show box for major:

