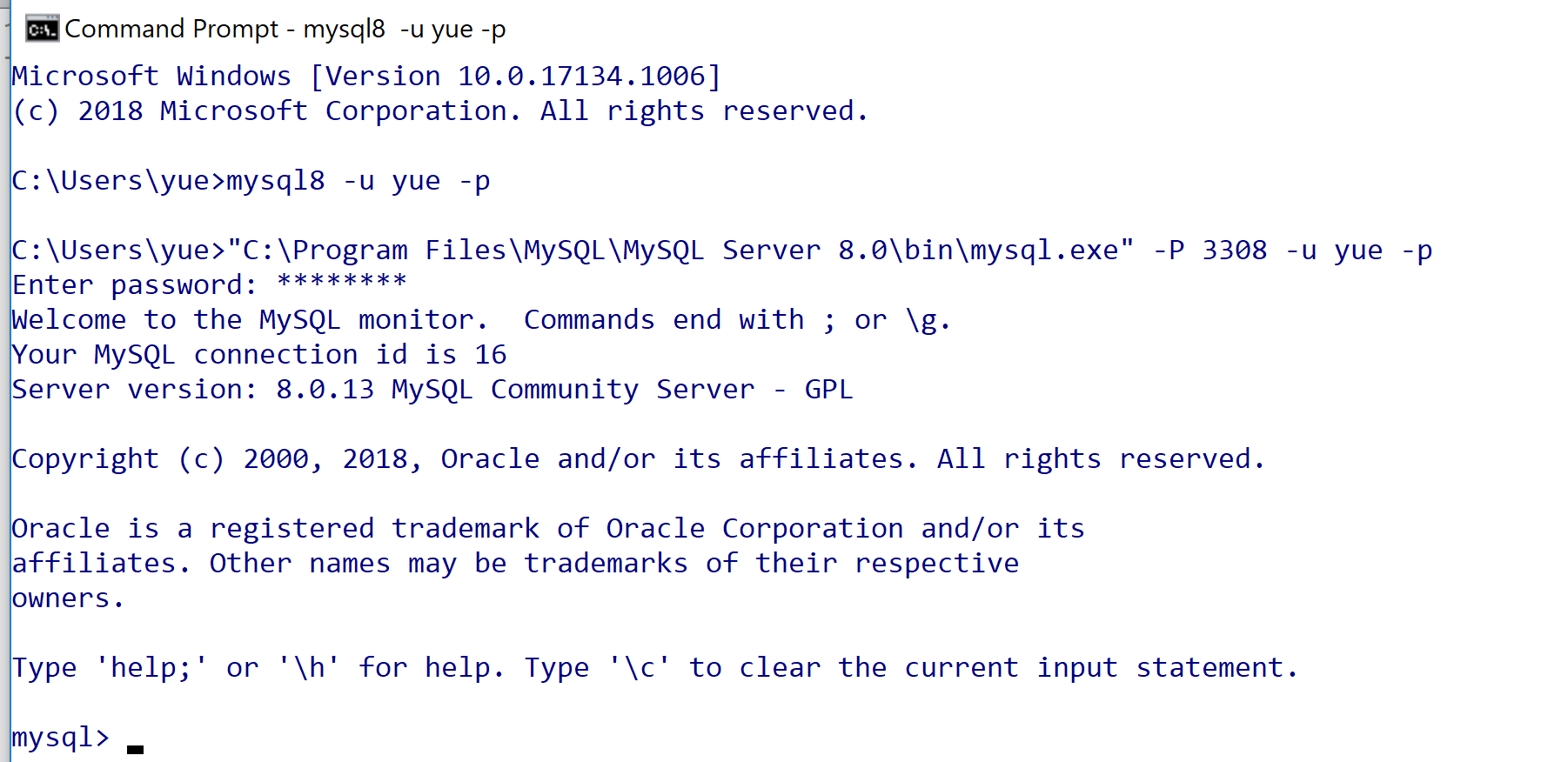
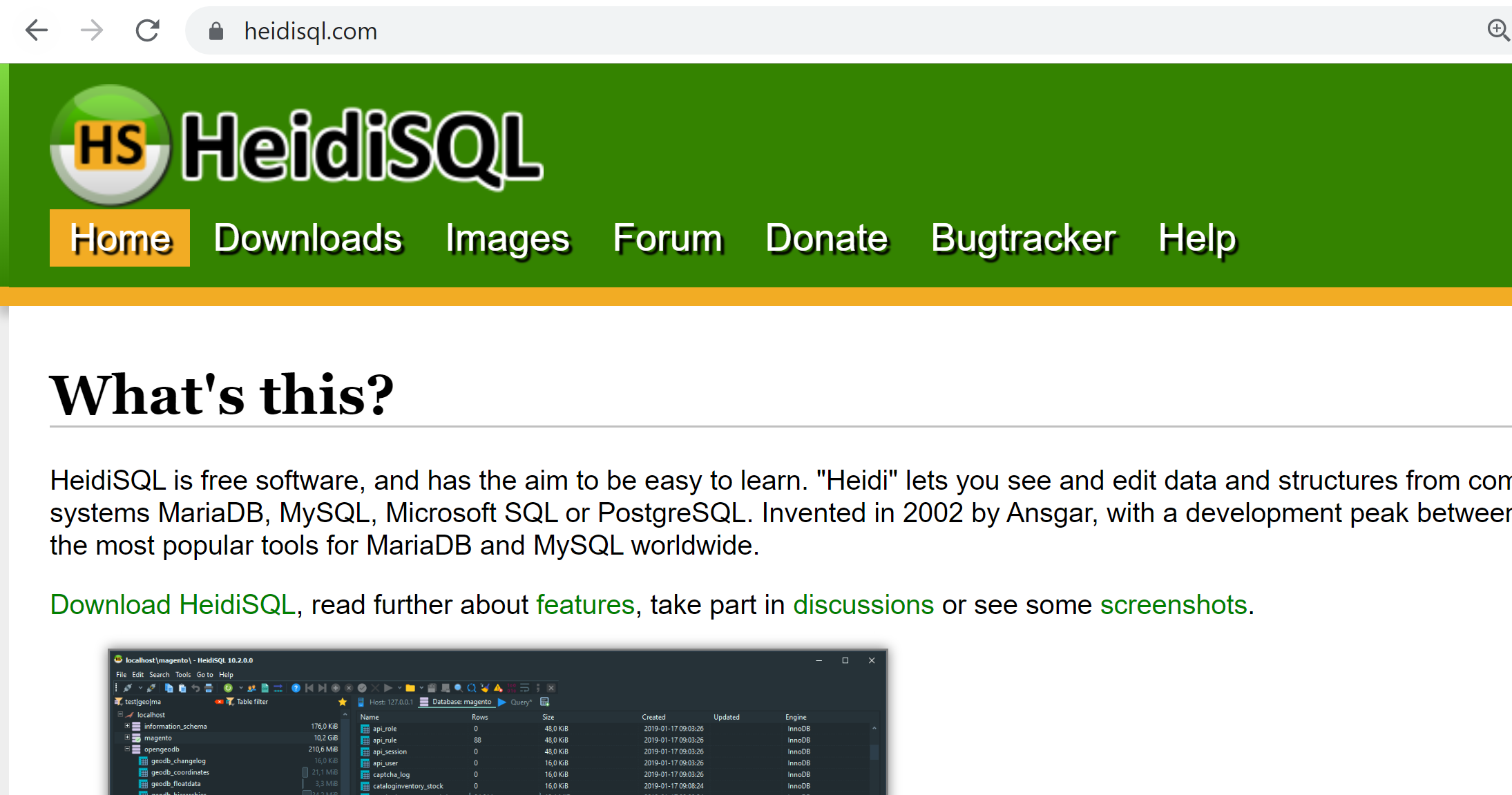
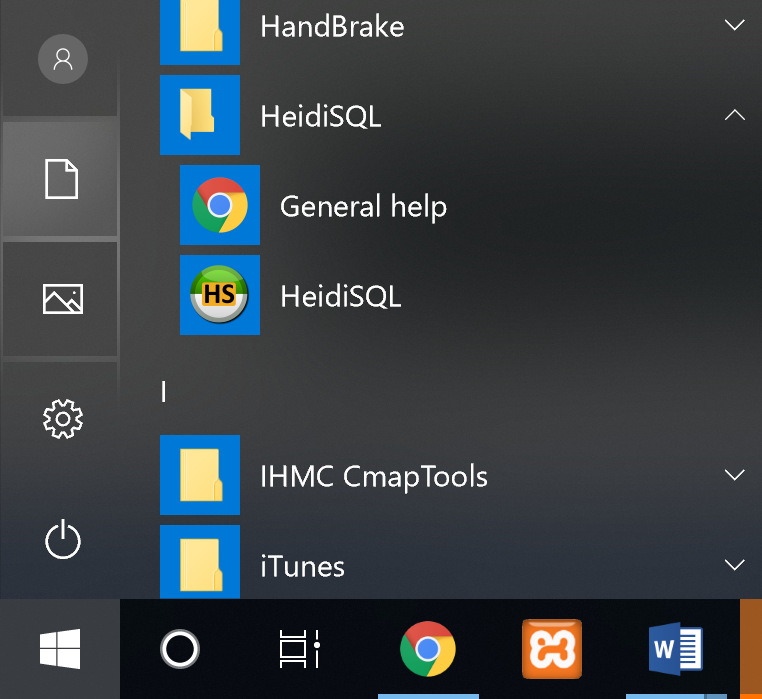
**9/18/2019**

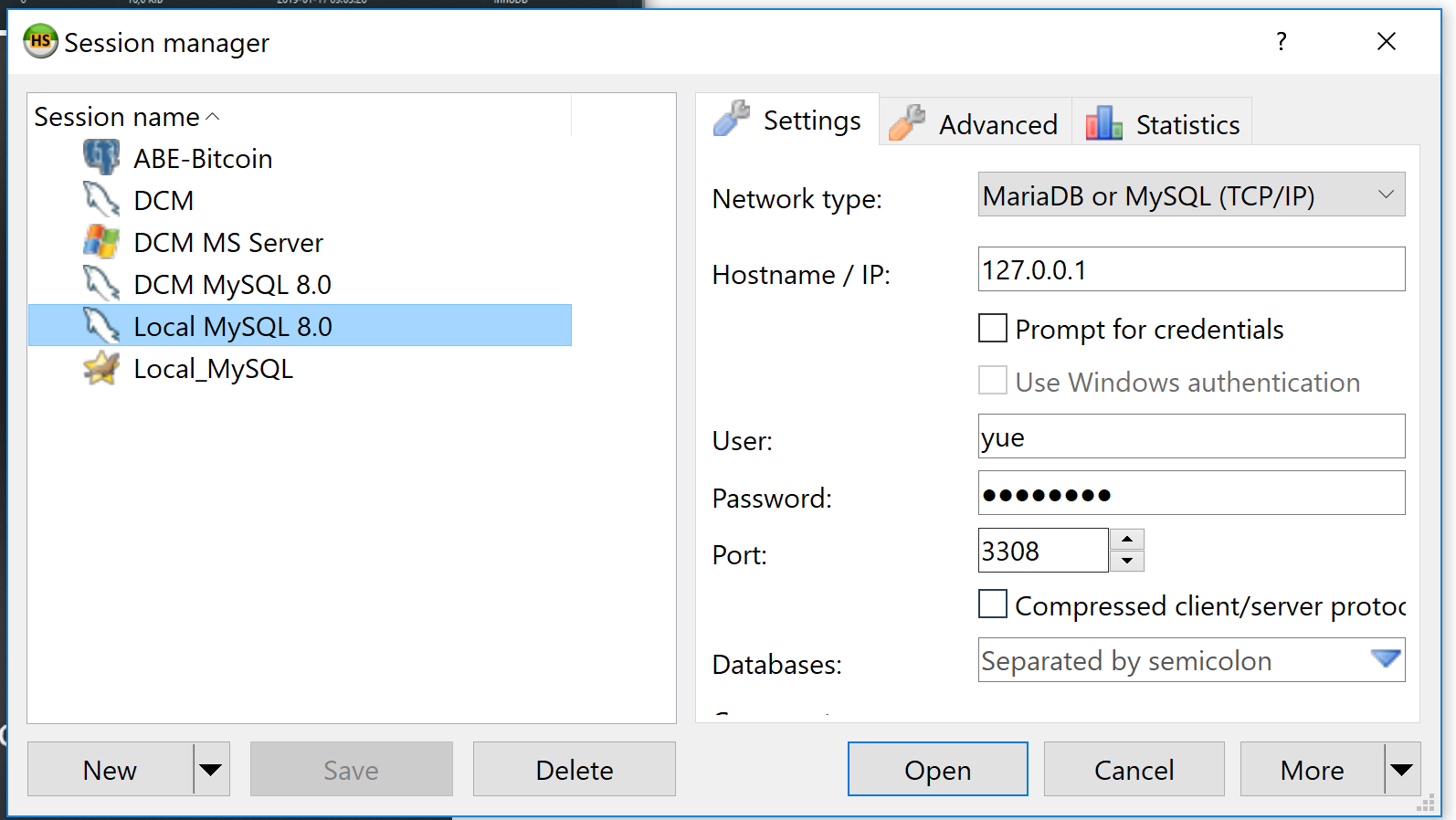
**Executing MySQL client in command line prompt: (more flexibility)**

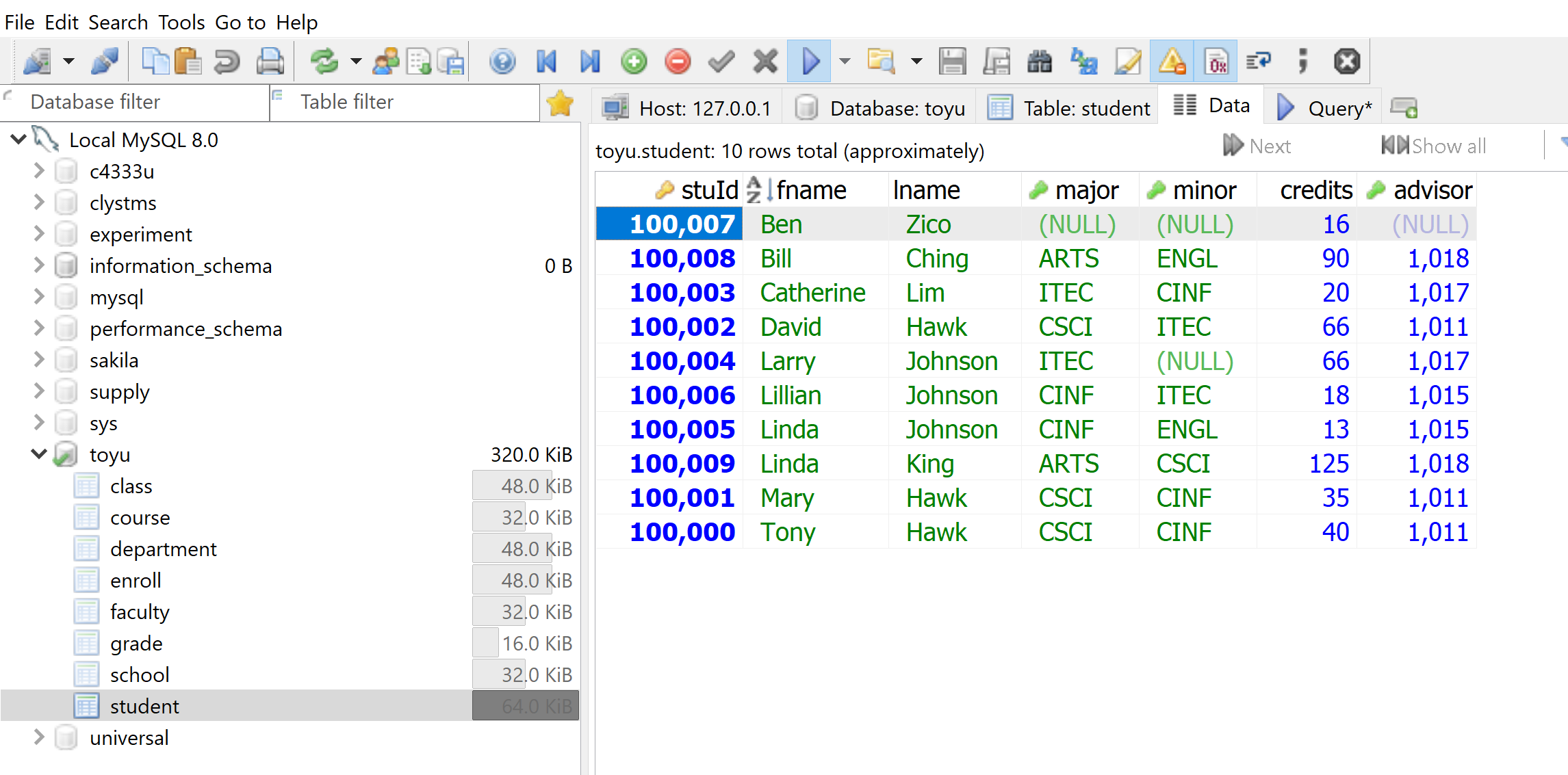
Mysql8.bat:

"C:\Program Files\MySQL\MySQL Server 8.0\bin\mysql.exe" -P 3308 %\*



\ 





Q7 Fall 2018.

(7) Show the student ids, names, minor department names, and faculty advisor names of all students majoring in CSCI.

+--------+-------+-------+------------------------------+------------+------------+

| stuId | fname | lname | deptName | adv. fname | adv. lname |

+--------+-------+-------+------------------------------+------------+------------+

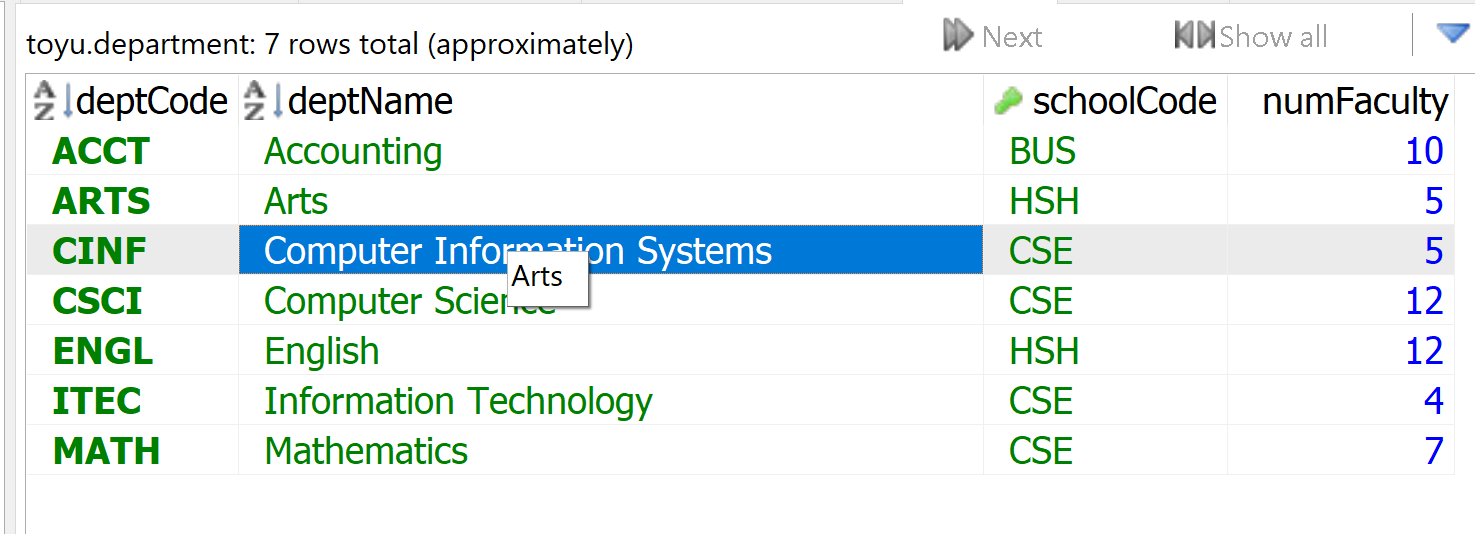
| 100000 | Tony | Hawk | Computer Information Systems | Paul | Smith |

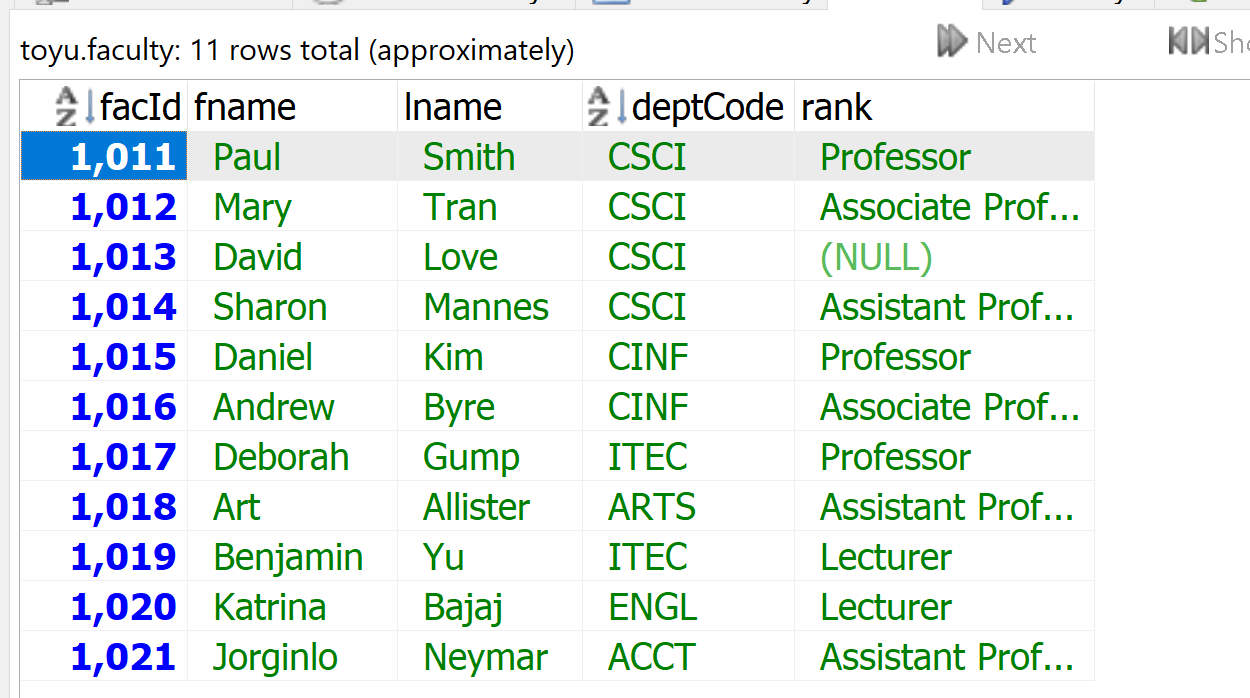
| 100001 | Mary | Hawk | Computer Information Systems | Paul | Smith |

| 100002 | David | Hawk | Information Technology | Paul | Smith |

+--------+-------+-------+------------------------------+------------+------------+

3 rows in set (0.00 sec)



  
**Data Analysis**

[1] Output columns:

1. stuId: student.stuId
2. fname: student.fname
3. lname: student.lname
4. deptName: department.deptName
5. adv. fname: faculty.fname
6. adv. lname: faculty.lname

mysql> select \* from student;

+--------+-----------+---------+-------+-------+---------+---------+

| stuId | fname | lname | major | minor | credits | advisor |

+--------+-----------+---------+-------+-------+---------+---------+

| 100000 | Tony | Hawk | CSCI | CINF | 40 | 1011 |

| 100001 | Mary | Hawk | CSCI | CINF | 35 | 1011 |

| 100002 | David | Hawk | CSCI | ITEC | 66 | 1011 |

| 100003 | Catherine | Lim | ITEC | CINF | 20 | 1017 |

| 100004 | Larry | Johnson | ITEC | NULL | 66 | 1017 |

| 100005 | Linda | Johnson | CINF | ENGL | 13 | 1015 |

| 100006 | Lillian | Johnson | CINF | ITEC | 18 | 1015 |

| 100007 | Ben | Zico | NULL | NULL | 16 | NULL |

| 100008 | Bill | Ching | ARTS | ENGL | 90 | 1018 |

| 100009 | Linda | King | ARTS | CSCI | 125 | 1018 |

+--------+-----------+---------+-------+-------+---------+---------+

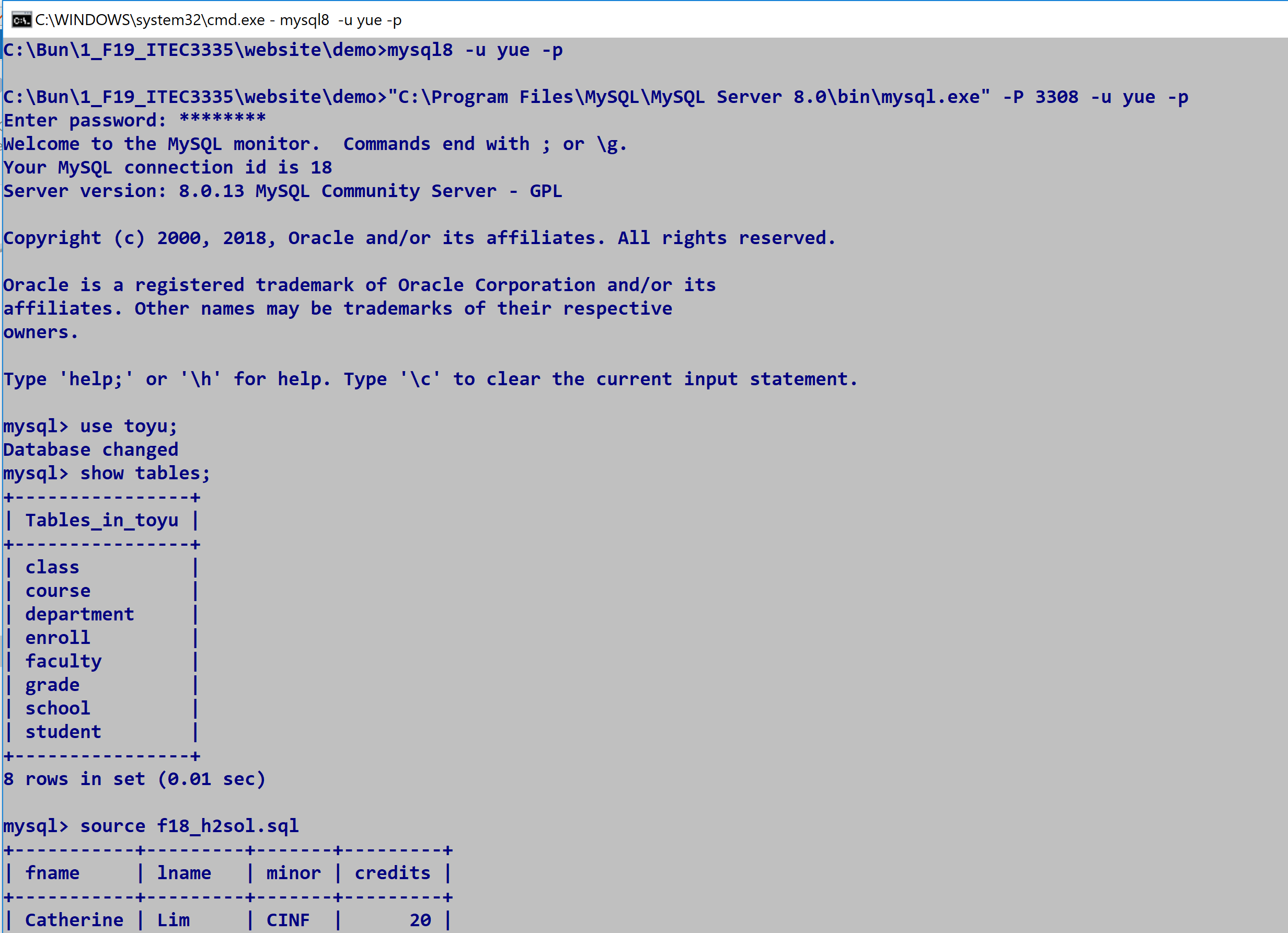
10 rows in set (0.00 sec)

[2] Source table instances:

1. student
2. department
3. faculty

[3] Conditions:

1. Join conditions:
   1. Student.minor = department.deptCode (e.g. Tony Hawk: CINF)
   2. Stduent.advisor = faculty.facId
2. Problem conditions:
   1. majoring in CSCI: student.major = ‘CSCI’



Table/Relation: student

Column names: stuId , fname | lname | major | minor | credits | advisor

Domain for stuId: int(11).

Atomic: stuId: 100000 cannot be broken into 100 and 000.

relation schema:  R, is a set of attributes A1, A2,…,An with their domains D1, D2,…, Dn.

R: student:

* A1:stuId: D1 int(11)
* A2 Fname: D2 varchar(20)
* …| lname | major | minor | credits | advisor

A *tuple* (*row*) is a set of *mapping* of a set of attributes to a set of values: Ai -> di where di belongs to Di.

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

One tuple: one row.

Ai (stuId ) -> di (100000) in Di (int(11))

mysql> SELECT \* FROM student;  
+--------+-----------+---------+-------+-------+---------+---------+  
| stuId  | fname     | lname   | major | minor | credits | advisor |  
+--------+-----------+---------+-------+-------+---------+---------+  
| 100000 | Tony      | Hawk    | CSCI  | CINF  |      40 |    1011 |  
| 100001 | Mary      | Hawk    | CSCI  | CINF  |      35 |    1011 |  
| 100002 | David     | Hawk    | CSCI  | ITEC  |      66 |    1011 |  
| 100003 | Catherine | Lim     | ITEC  | CINF  |      20 |    1017 |  
| 100004 | Larry     | Johnson | ITEC  | NULL  |      66 |    1017 |  
| 100005 | Linda     | Johnson | CINF  | ENGL  |      13 |    1015 |  
| 100006 | Lillian   | Johnson | CINF  | ITEC  |      18 |    1015 |  
| 100007 | Ben       | Zico    | NULL  | NULL  |      16 |    NULL |  
| 100008 | Bill      | Ching   | ARTS  | ENGL  |      90 |    1018 |  
| 100009 | Linda     | King    | ARTS  | CSCI  |     125 |    1018 |  
+--------+-----------+---------+-------+-------+---------+---------+

10 rows in set (0.00 sec)

This row:

| 100000 | Tony      | Hawk    | CSCI  | CINF  |      40 |    1011

For

{stuID -> 100000, fname -> ‘Tony’,lname -> ‘Hawk’, major -> ‘CSCI’, minor -> ‘CINF’, credits -> 40, advisor -> 1011}

{ major -> ‘CSCI’, minor -> ‘CINF’, stuID -> 100000, fname -> ‘Tony’,lname -> ‘Hawk’, credits -> 40, advisor -> 1011}

Same

mysql> SELECT \* FROM student;  
+--------+-----------+---------+-------+-------+---------+---------+  
| stuId  | fname     | lname   | major | minor | credits | advisor |  
+--------+-----------+---------+-------+-------+---------+---------+  
| 100000 | Tony      | Hawk    | CSCI  | CINF  |      40 |    1011 |  
| 100004 | Larry     | Johnson | ITEC  | NULL  |      66 |    1017 |  
| 100005 | Linda     | Johnson | CINF  | ENGL  |      13 |    1015 |  
| 100006 | Lillian   | Johnson | CINF  | ITEC  |      18 |    1015 |  
| 100007 | Ben       | Zico    | NULL  | NULL  |      16 |    NULL |  
| 100001 | Mary      | Hawk    | CSCI  | CINF  |      35 |    1011 |  
| 100002 | David     | Hawk    | CSCI  | ITEC  |      66 |    1011 |  
| 100003 | Catherine | Lim     | ITEC  | CINF  |      20 |    1017 |  
| 100008 | Bill      | Ching   | ARTS  | ENGL  |      90 |    1018 |  
| 100009 | Linda     | King    | ARTS  | CSCI  |     125 |    1018 |  
+--------+-----------+---------+-------+-------+---------+---------+

same