

**INFSCI 1022: Database Management Systems,  
Spring 2012**

**Due date: Wed, 02/15/2012**

**HW2: SQL [100 pts].**

For this homework you will work with the same database as in homework1. Your task is to write SQL statements to answer all questions. Here is example of data in the database. Your answers should be based on schema and not only on the presented data. That is even if you write an SQL query which finds right data from given example but not in general from the given database schema (on my computer I have millions of tuples in that database), your answer will not be counted.

**users**

<u>user_id</u>	login	password	email	user_name	location
1	U1	P1	<a href="mailto:U1@mail.mail">U1@mail.mail</a>	User1	1
2	U2	P2	<a href="mailto:U2@mail.mail">U2@mail.mail</a>	User2	1
3	U3	P3	<a href="mailto:U3@mail.mail">U3@mail.mail</a>	User3	2
4	U4	P4	<a href="mailto:U4@mail.mail">U4@mail.mail</a>	User4	3
5	U5	P5	<a href="mailto:U5@mail.mail">U5@mail.mail</a>	User5	4

**locations**

<u>lid</u>	city	state
1	City1	State1
2	City2	State2
3	City3	State3
4	City4	State3

**files**

<u>user_id</u>	<u>hash</u>	file_name	size
1	H1	File1_1	700
2	H1	File1	700
3	H1	File11	700
1	H2	File2	100
1	H3	File3	750
4	H3	File3_1	200
2	H3	File31	750

**network\_delay**

<u>lid1</u>	<u>lid2</u>	delay
1	2	1
3	1	1.5
2	3	0.5

Question 1 [5 pts]

Find all networks with delay more than 0.5 but less than 1.5.

Question 2 [5 pts]

Find user name, email, city and state for all users.

Question 3 [5 pts]

Find cities, states and delays for all network delays. The result should contain city and state for location 1, city and state for location 2, and delay.

Question 4 [5 pts]

Find all files that names start with 'File'. Rename attribute (column) from "file\_name" to 'File Name'.

Question 5 [5pts]

Find user's id for all users who don't share any files. Hint: Use set operation.

Question 6 [5 pts]

Find average size for files with hash 'H3'.

Question 7 [10 pts]

Find the states' names and the number of users living in each of them except 'State 2'.

Question 8 [10 pts]

Find users' names and the number of files shared by each of them.

Question 9 [15 pts]

Find pairs of cities and delays between them, where delay is greater than average delay between all locations.

Question 10 [10 pts]

Find hashes and average size of files with same hash.

Question 11 [10 pts]

Find user\_names of users who live in cities with smallest delays.

Question 12 [15 pts]

Find average size of files shared by each user living in locations that have delay greater than some networks with origin (lid1) in city City3.