CS 486/586 Introduction to Databases
Fall 2017 Quarter

Assignment 1 – Basic SQL Queries
Due: Thursday, 5 October 2017, at the beginning of class

You may do this assignment individually or you may work with one partner. That is, this assignment is to be completed by individuals or by teams of two students. You should only talk to the instructor, the TA and your partner about this assignment. You may also post questions to the Piazza discussion list.

Please turn in your completed assignments on paper. Put your last name, first name, the assignment number in that order in the first line of your assignment. List last name and first name for your partner, if you have one, on the second line of your assignment. (If you are working with a partner, turn in one assignment paper.)

This assignment is based on the Spy relational database. Information about this database and information how to access it is on the Database Info Page. (http://web.cecs.pdx.edu/~maier/db_resources/db.htm)

Part One (5 points per item)
Give the English request that could have resulted in each of the SQL queries below (see Part Two for examples). (Don't just paraphrase the SQL into words.) Also include the *first five* rows of the result for each query (or fewer, the result is smaller), and the total number of rows returned.

1.
(a) SELECT * FROM Agent WHERE city = 'Milan' AND country = 'Italy';
(b) SELECT mission_status FROM Mission;
(c) SELECT DISTINCT mission_status FROM Mission;
(d) SELECT agent_id, city, country FROM Agent WHERE salary < 50500
AND country != 'Poland';
(e) SELECT team_id, name FROM Team;

2.
(a) SELECT name, meeting_frequency FROM Team WHERE team_id = 18;
(b) SELECT name, meeting_frequency FROM Team WHERE Team.team_id = 18;
(c) SELECT name, meeting_frequency FROM Team T WHERE T.team_id = 18;

3.
(a) SELECT * FROM Agent A, SecurityClearance S
WHERE A.salary = 54264
AND (S.sc_level = 'Secret' OR S.sc_level = 'Majestic');
(b)) SELECT * FROM Agent A, SecurityClearance S
WHERE A.salary = 54264
AND (S.sc_level = 'Secret' OR S.sc_level = 'Majestic')
AND A.clearance_id = S.sc_id;

4.
(a) SELECT A.agent_id, A.first, A.last, A.city, A.country
FROM Agent A, SkillRel SR, Skill S
WHERE A.agent_id = SR.agent_id AND SR.skill_id = S.skill_id
AND S.skill = 'Locksmith';
(b) SELECT A1.first, A1.last, A2.city, A2.country FROM Agent A1, Agent A2
WHERE A1.city = A2.city AND A1.country = A2.country
AND A1.clearance_id > A2.clearance_id AND A1.salary >= A2.salary;

Part Two (10 points each)
Write a single SQL statement for each of the following queries. Show the first five rows of the result for each query (or fewer, if the result is smaller) and the number of rows returned. You should be able to write these SQL queries using only the features covered in the first lecture notes.

5. What are the team ID and the meeting frequency for the Cyclone team?

6. Which countries have agents with Presidential or Majestic clearance?
(Your query shouldn't depend on what clearance IDs are used for these clearance levels, just the names of the levels.)

7. What are the ids and last names of all agents with at least two skills?
(You can do this without COUNT.)

8. List the name and status of all missions that have at least one agent who speaks Russian. Don't repeat missions in your result.

9. Which pairs of agents have the same first and last names? (List each pair only once.)