

**CS 3335**  
**Exam I**  
**Feb. 10, 2009**  
**100 points**

**Name:** \_\_\_\_\_

For all queries, provide documentation and label all output columns appropriately.

1. Consider the query

```
SELECT * FROM users NATURAL JOIN ratings;
```

- (a) Write the equivalent query using join predicates in the WHERE clause. (5)

- (b) Write the equivalent query using JOIN operators (5)

2. Output all of the rows in the `movies_jokes` table as a single sentence of the form: (10)

The movie `<movie title>` uses joke `<jokeid>` which has a license that expires on `<Month> <Day>, <Year>`.

Where the date should look like February 12, 2009.

3. Consider the following query:

```
Select UserName, JokeID  
From Users LEFT OUTER JOIN Jokes on UserId = Author;
```

(a) Describe the results of this query. (5)

(b) Implement the query in a single SQL query without an outer join. (10)

4. Remove all ratings on jokes made by the author of the joke.

(7)

5. Increase all fees of jokes used in more than 5 movies by 10%

(7)

6. Insert a rating of null into the database for userid 100 for all jokes not previously rated by userid 100. (7)

7. In a single SQL query, find the pairs of usernames and jokeids such that the user has not rated the joke. (15)

8. Find the titles of all movies that have used all jokes written by users on Ave X. (15)

9. Fill in the blanks with the missing terms.

- (a) In SQL, \_\_\_\_\_ consists of (among others) SELECT, UPDATE and INSERT operators, thereby enabling users to access data. (2)
- (b) The overall design of the database tables is called the database \_\_\_\_\_ (2)
- (c) \_\_\_\_\_ is having various copies of the same data. It can lead to data inconsistencies. (2)
- (d) A \_\_\_\_\_ is a collection of interrelated data and a set of programs to access those data. (2)
- (e) The \_\_\_\_\_ describes how the data are actually stored on disk or other media. (2)
- (f) A \_\_\_\_\_ is a collection of operations that performs a single logical unit of work. (2)
- (g) \_\_\_\_\_ refers loosely to the process of semiautomatically analyzing large databases to find useful patterns. (2)