Points missed: _____ Student's Name: _____

Total score: _____ /50 points

East Tennessee State University – Department of Computer and Information Sciences
CSCI 2910 (Tarnoff) – Server/Client Side Programming
TEST 2 for Spring Semester, 2007

Read this before starting!

- The total possible score for this test is 50 points.
- This test is ***closed book and closed notes.***
- A summary of MySQL commands can be found at the bottom of this page.
- ***Please turn off all cell phones & pagers during the test.***
- You may ***NOT*** use a calculator. Complex numeric calculations may be left in the form of an expression.
- All answers must be placed in space provided. Failure to do so will result in no credit for answer.
- If you perform written work on the back of a page in this test, indicate that you have done so in case the need arises for partial credit to be determined.
- Statement regarding academic misconduct from Section 5.7 of the East Tennessee State University Faculty Handbook, June 1, 2001:

  "Academic misconduct will be subject to disciplinary action. Any act of dishonesty in academic work constitutes academic misconduct. This includes plagiarism, the changing of falsifying of any academic documents or materials, cheating, and the giving or receiving of unauthorized aid in tests, examinations, or other assigned school work. Penalties for academic misconduct will vary with the seriousness of the offense and may include, but are not limited to: a grade of 'F' on the work in question, a grade of 'F' of the course, reprimand, probation, suspension, and expulsion. For a second academic offense the penalty is permanent expulsion."

SQL/MySQL Syntax:

- INSERT INTO tablename (fieldname [, fieldnames]) VALUES (value [, values])
- DELETE FROM tablename WHERE fieldname=value
- UPDATE tablename SET fieldname=value WHERE fieldname=value
- USE database
- SHOW TABLES
- CREATE TABLE tablename (field1 data_type [NULL/NOT NULL], field2 data_type [NULL/NOT NULL], ...)
- DROP TABLE tablename
- SELECT [ALL | DISTINCT] *| COLUMN1[, COLUMN2] FROM TABLE1 [, TABLE2] WHERE [CONDITION1 | EXPRESSION1][AND|OR CONDITION2 | EXPRESSION2] ORDER BY fieldname [, fieldnames] [ASC|DESC] LIMIT [start,] size

All problems on this test refer to the three tables shown below that are part of a relational database.

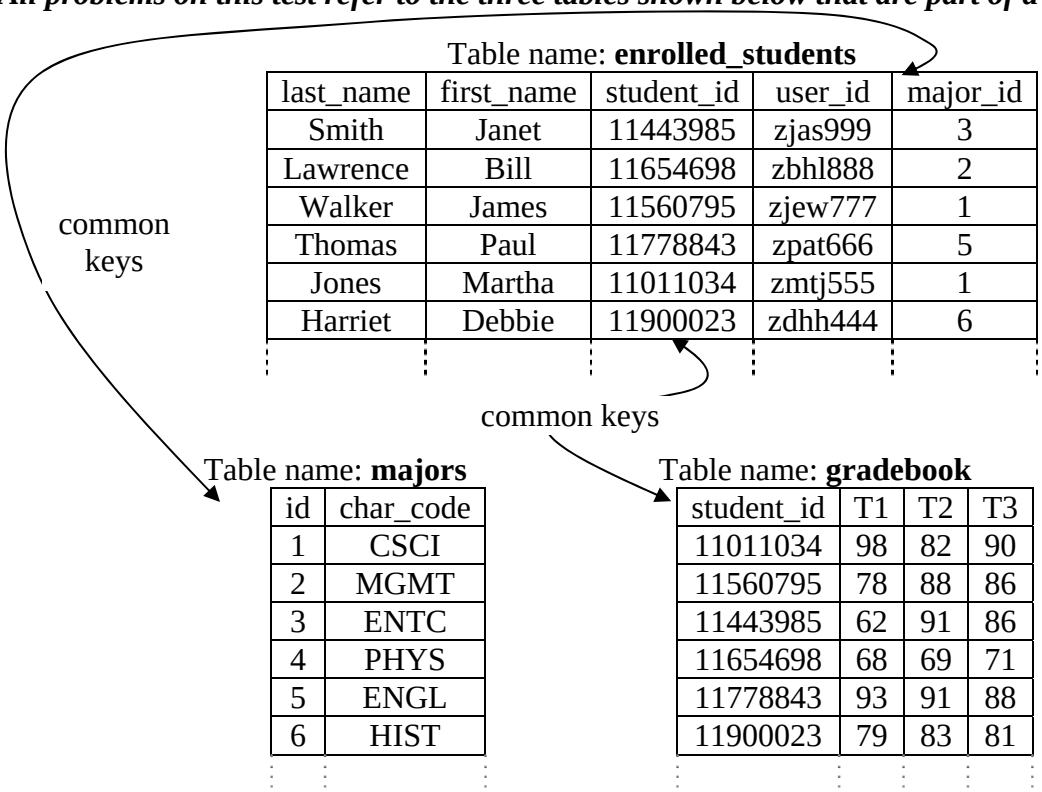

Table name: **enrolled_students**

last_name	first_name	student_id	user_id	major_id
Smith	Janet	11443985	zjas999	3
Lawrence	Bill	11654698	zbhl888	2
Walker	James	11560795	zjew777	1
Thomas	Paul	11778843	zpat666	5
Jones	Martha	11011034	zmtj555	1
Harriet	Debbie	11900023	zdhh444	6

Table name: **majors**

id	char_code
1	CSCI
2	MGMT
3	ENTC
4	PHYS
5	ENGL
6	HIST

Table name: **gradebook**

student_id	T1	T2	T3
11011034	98	82	90
11560795	78	88	86
11443985	62	91	86
11654698	68	69	71
11778843	93	91	88
11900023	79	83	81

Here are some additional comments about the above table. First, the tables are only partial tables. Assume there is more data. Second, enrolled_students and gradebook could probably have been the same table, but they were kept separate for reasons of security, i.e., not wanting people who had access to the roll also have access to the gradebook. Third, the table majors could be made unnecessary by simply using the char_code directly for the major_id in enrolled_students. The problem with that is that if a char_code gets changed, you would have to go through all of the enrolled students and manually make the change instead of making the change in one place, i.e., the majors table.

1. What score did Martha Jones get on Test 2 (T2)? (2 points)

2. Which field would serve best as the primary key for the **enrolled_students** table? (Note that there are actually 2 answers, but one is better than the other.) (2 points)

3. Which field(s) would serve best as the primary key for the **gradebook** table? (2 points)

4. If we wanted to add a field to identify the student's level, i.e., freshman, sophomore, junior, or senior, which table should we use? (2 points)

   a.) enrolled_students b.) majors c.) gradebook d.) need to add a fourth table

5. If we wanted to add a field to identify properties of the class such as instructor name, meeting time, or assigned room, which table should we use? (2 points)

   a.) enrolled_students b.) majors c.) gradebook d.) need to add a fourth table

6. What SQL data type would you assign to the field **id** in the table **majors**? Be as specific as you can. There will never be more than 256 majors. (2 points)

a.) BIT	b.) TINYINT	c.) INTEGER	c.) BIGINT	d.) FLOAT	e.) DATE
f.) DATETIME	g.) YEAR	h.) CHAR	i.) VARCHAR	j.) TEXT	k.) ENUM

7. What SQL data type would you assign to the field **char_code** in the table **majors**? Be as specific as you can. This field will always have exactly 4 characters. (2 points)

a.) BIT	b.) TINYINT	c.) INTEGER	c.) BIGINT	d.) FLOAT	e.) DATE
f.) DATETIME	g.) YEAR	h.) CHAR	i.) VARCHAR	j.) TEXT	k.) ENUM

8. Write the SQL statement to create the table **majors**. (3 points)

9. Complete the partial MySQL select statement below in order to display all fields from all records contained in the table enrolled_students ***sorted by last_name then by first_name***. (3 points)

select * from enrolled_students _____

10. Complete the partial MySQL select statement below in order to display all fields from ***records 2, 3, and 4*** of the table enrolled_students. (Note that the record numbers identifies the position of the record within the table, the first record being position 0.) (3 points)

select * from enrolled_students _____

11. Complete the partial MySQL select statement below in order to display all fields of the single record contained in enrolled_students with a ***user_id equal to "zmtj555".*** (3 points)

select * from enrolled_students _____

12. Complete the partial MySQL select statement below in order to display all fields of records contained in enrolled_students with a ***student_id containing '10' as the second and third digit***. (3 points)

select * from enrolled_students _____

13. Complete the partial MySQL select statement below in order to join the tables enrolled_students and gradebook to display the students' names and their corresponding test grades. (4 points)

select last_name, first_name, T1, T2, T3 from enrolled_students, gradebook where

_____

14. Write the SQL statement to output the student_id and the result of the final grade calculation (T1*0.4)+(T2*0.2)+(T3*0.4) from the table gradebook. (4 points)

15. In the space below, write the output from the following MySQL statement: (2 points)

select student_id from gradebook where T1 > 80;

16. In the space below, write the output from the following MySQL statement: (3 points)

select student_id, T1+5 from gradebook where T1 between 70 and 80;

17. Identify all three syntax errors in the MySQL command below. (3 points)

select enrolled_students.last_name, enrolled_students.first_name, majors_char_code from enrolled_students, majors where (enrolled_students.majorid = majors.id) and (majors.char_code = CSCI");

18. The data type definition DECIMAL(10, 4): (2 points)

a.) defines a decimal value between 4 and 10.
b.) defines a ten digit base four value.
c.) defines a four digit base ten decimal value.
d.) defines a ten digit fixed point decimal value with 4 digits after decimal point.
e.) is an illegal data type definition.

19. In the client/server side model, having a middle layer provides: (circle all that are true) (3 points)

a.) ability to access more than one database with a single transaction
b.) ability connect to many different types of data sources
c.) ability to prioritize requests before they reach the data base
d.) improved security