

Final Review — Practice

CSCI 40

Fall 2026

Total Score: _____/4

LLM evaluation

2026-08-26

Re-evaluation pending after quiz-bank corrections.

Initial database state used by every problem

Every problem starts with a fresh copy of this SQLite database.
NULL denotes a SQL NULL value. Rows are shown in id order.

Schema:

```
CREATE TABLE users (
  id INTEGER PRIMARY KEY,
  username TEXT NOT NULL UNIQUE,
  password TEXT NOT NULL,
  age INTEGER
);
CREATE TABLE messages (
  id integer primary key,
  sender_id integer not null,
  message text not null,
  created_at timestamp not null default current_timestamp
);
```

Initial rows:

users(id, username, password, age):

```
1 | Trump | Trump | 76
2 | Biden | Biden | 79
3 | Evan | correct horse battery staple | 4
4 | Isaac | soccer | 1
5 | Aaron | guaguagua | 0
6 | Teal | 524euTjrWm6uK2C5iw8mC6aNgX1JI78o | 35
7 | Kristen | Possible-Rich-Absolute-Battle | NULL
```

messages(id, sender_id, message, created_at):

```
1 | 1 | I'm a baby | 2021-11-14 14:30:00
2 | 2 | I'm a baby | 2021-11-14 14:30:00
3 | 3 | I'm a baby | 2021-11-14 14:33:01
4 | 4 | I'm a baby | 2021-11-15 14:35:45
5 | 3 | I'm actually a toddler | 2021-11-16 14:35:45
6 | 6 | Today in 1918, the Armistice that effectively ended WWI came into effect. | 2021-11-11
  11:00:00
7 | 6 | I'm an adult | 2021-11-17 14:35:45
8 | 6 | SQL is the best!! | 2021-11-17 14:35:45
9 | 7 | I'm an adult | 2021-11-17 14:35:45
10 | 7 | WTF is SQL?! I thought you liked the snake thing. | 2021-11-17 14:35:45
```

Problem 1. What is the output of the following python code?

```
1  # Problem 1
2
3  import sqlite3
4
5  con = sqlite3.connect('twitter_clone.db')
6  cur = con.cursor()
7  sql = """
8  SELECT count(*) FROM users WHERE password LIKE '%a%';
9  """
10 cur.execute(sql)
11 for row in cur.fetchall():
12     print('row[0]=', row[0])
```

Answer:

```
row[0]= 4
```

Problem 2. What is the output of the following python code?

```
1  # Problem 2
2
3  import sqlite3
4
5  con = sqlite3.connect('twitter_clone.db')
6  cur = con.cursor()
7
8  sql = """
9  INSERT INTO users (password, username) VALUES ('example', 'password');
10 """
11 cur.execute(sql)
12 con.commit()
13
14 sql = """
15 SELECT password,username FROM users WHERE username='password';
16 """
17 cur.execute(sql)
18 for row in cur.fetchall():
19     print('row[0]=', row[0])
20     print('row[1]=', row[1])
```

Answer:

```
row[0]= example
row[1]= password
```

Problem 3. What is the output of the following python code?

```
1  # Problem 3
2
3  import sqlite3
4
5  con = sqlite3.connect('twitter_clone.db')
6  cur = con.cursor()
7
8  username = "example", 'password'), ('example2"
9  password = 'password'
10 sql = """
11 INSERT INTO users (username, password) VALUES ('"""+username+""", '"""+
    password+""");
12 """
13 cur.execute(sql)
14 con.commit()
15
16 sql = """
17 SELECT id,password FROM users WHERE username LIKE 'example%' ORDER BY id;
18 """
19 cur.execute(sql)
20 for row in cur.fetchall():
21     print('row[0]=', row[0])
22     print('row[1]=', row[1])
```

Answer:

```
row[0]= 8
row[1]= password
row[0]= 9
row[1]= password
```

Problem 4. What is the output of the following python code?

```
1  # Problem 4
2
3  import sqlite3
4
5  con = sqlite3.connect('twitter_clone.db')
6  cur = con.cursor()
7
8  username = "example", 'password'), ('example2"
9  password = 'password'
10 sql = """
11 INSERT INTO users (username, password) VALUES (?, ?);
12 """
13 cur.execute(sql, [username, password])
14 con.commit()
15
16 sql = """
17 SELECT id,password FROM users WHERE username='example';
18 """
19 cur.execute(sql)
20 for row in cur.fetchall():
21     print('row[0]=', row[0])
22     print('row[1]=', row[1])
```

Answer:

(no output)

Problem 5. What is the output of the following python code?

```
1  # Problem 5
2
3  import sqlite3
4
5  con = sqlite3.connect('twitter_clone.db')
6  cur = con.cursor()
7
8  username = "Teal" OR username='TRUMP'
9  sql = """
10 SELECT id,password FROM users WHERE username=''+ username +''';
11 """
12 cur.execute(sql)
13 user_ids = []
14 for row in cur.fetchall():
15     user_ids.append(row[0])
16
17 for user_id in user_ids:
18     sql = """
19     SELECT count(*) FROM messages WHERE sender_id=?;
20     """
21     cur.execute(sql, [user_id])
22     for row in cur.fetchall():
23         print('row[0]=', row[0])
```

Answer:

```
row[0]= 3
```