

Backend Web Dev — Practice

CSCI 40: Computing for the Web

Fall 2026

Quiz rules:

1. You MAY use any printed or handwritten notes.
2. You MAY NOT use a computer or any other electronic device.

For each program below, write the output of all print statements. You MAY NOT use a computer. **prob-**

lem1.py

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

problem1b.py

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

problem2.py

```
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 (username, password) VALUES ('example', 'password');
10 """
11 cur.execute(sql)
12 con.commit()
13
14 sql = """
15 SELECT id,password FROM users WHERE username='example';
16 """
17 cur.execute(sql)
```

```

18 for row in cur.fetchall():
19     print('row[0]=', row[0])
20     print('row[1]=', row[1])

```

problem2b.py

```

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

```

problem3.py

```

1 # Problem 3
2
3 import sqlite3
4
5 con = sqlite3.connect('twitter_clone.db')
6 cur = con.cursor()
7
8 username = 'example'
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='example';
18 """
19 cur.execute(sql)
20 for row in cur.fetchall():
21     print('row[0]=', row[0])
22     print('row[1]=', row[1])

```

problem3b.py

```

1 # Problem 3b
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%';
18 """
19 cur.execute(sql)
20 for row in cur.fetchall():
21     print('row[0]=', row[0])
22     print('row[1]=', row[1])

```

problem4.py

```

1 # Problem 4
2
3 import sqlite3
4
5 con = sqlite3.connect('twitter_clone.db')
6 cur = con.cursor()
7
8 username = 'example'
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])

```

problem4b.py

```

1 # Problem 4b
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])

```

problem4c.py

```

1 # Problem 4b

```

```

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

```

problem5.py

```

1 # Problem 5
2
3 import sqlite3
4
5 con = sqlite3.connect('twitter_clone.db')
6 cur = con.cursor()
7
8 username = 'Mike'
9 sql = """
10 SELECT id,password FROM users WHERE username=?;
11 """
12 cur.execute(sql, [username])
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])

```

problem5b.py

```

1 # Problem 5b
2
3 import sqlite3
4
5 con = sqlite3.connect('twitter_clone.db')
6 cur = con.cursor()
7
8 username = "Mike' 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])

```

problem5c.py

```

1 # Problem 5b
2
3 import sqlite3
4
5 con = sqlite3.connect('twitter_clone.db')
6 cur = con.cursor()
7
8 username = "Mike' OR username='Trump"
9 sql = """
10 SELECT id,password FROM users WHERE username=?;
11 """
12 cur.execute(sql, [username])
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])

```

problem6.py

```

1 # Problem 6b
2
3 import sqlite3
4
5 con = sqlite3.connect('twitter_clone.db')
6 cur = con.cursor()
7
8 username = 'Mike'
9 sql = """
10 SELECT id 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 id, sender_id, message, created_at FROM messages WHERE sender_id="" + str(user_id) + "
20     """;
21     """
22     cur.execute(sql)
23     for row in cur.fetchall():
24         print('id=', row[0], 'sender_id=', row[1], 'message=', row[2], 'created_at=', row[3])

```

problem6b.py

```

1 # Problem 6b
2

```

```

3 import sqlite3
4
5 con = sqlite3.connect('twitter_clone.db')
6 cur = con.cursor()
7
8 username = 'Mike'
9 sql = """
10 SELECT id FROM users WHERE username=?;
11 """
12 cur.execute(sql, [username])
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 id, sender_id, message, created_at FROM messages WHERE sender_id=?;
20     """
21     cur.execute(sql, [user_id])
22     for row in cur.fetchall():
23         print('id=', row[0], 'sender_id=', row[1], 'message=', row[2], 'created_at=', row[3])

```

problem6c.py

```

1 # Problem 6c
2
3 import sqlite3
4
5 con = sqlite3.connect('twitter_clone.db')
6 cur = con.cursor()
7
8 username = "Mike' OR username='Trump"
9 sql = """
10 SELECT id 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 id, sender_id, message, created_at FROM messages WHERE sender_id="" + str(user_id) + "
20     """;
21 """
22 cur.execute(sql)
23 for row in cur.fetchall():
24     print('id=', row[0], 'sender_id=', row[1], 'message=', row[2], 'created_at=', row[3])

```