

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%';
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 = "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])
```

Answer:

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