

System Security Lab-2

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CB.SC.U4CYS23036

Exercise 1.1

```
Query 1 x
1 • CREATE TABLE T (id INT NOT NULL PRIMARY KEY, s VARCHAR(40), si SMALLINT);
2 • DESCRIBE T;
3 • INSERT INTO T (id, s) VALUES (1, 'first');
4 • INSERT INTO T (id, s) VALUES (2, 'second');
5 • INSERT INTO T (id, s) VALUES (3, 'third');
6 • SELECT * FROM T ;
7 • ROLLBACK;
8 • SELECT * FROM T ;
9 • START TRANSACTION;
10 • INSERT INTO T (id, s) VALUES (4, 'fourth');
11 • SELECT * FROM T ;
12 • ROLLBACK;
13 • SELECT * FROM T;
14
```

Output

Result Grid			
id	s	si	
1	first	NULL	
2	second	NULL	
3	third	NULL	
4	fourth	NULL	

Result 6 T7 T8 T9 T10 x			
#	Time	Action	Message
29	15:35:43	SELECT * FROM T LIMIT 0, 1000	3 row(s) returned
30	15:35:43	START TRANSACTION	0 row(s) affected
31	15:35:43	INSERT INTO T (id, s) VALUES (4, 'fourth')	1 row(s) affected
32	15:35:43	SELECT * FROM T LIMIT 0, 1000	4 row(s) returned
33	15:35:44	ROLLBACK	0 row(s) affected
34	15:35:44	SELECT * FROM T LIMIT 0, 1000	3 row(s) returned

Exercise 1.2

```
Query 1 x
Limit to 1000 rows
1 • INSERT INTO T (id, s) VALUES (5, 'fifth');
2 • ROLLBACK;
3 • SELECT * FROM T;
```

Output:

Result Grid				
Filter Rows:				
Edit: Export/Import: Wrap Cell Content:				
Result Grid				
Form Editor				
Field Types				
T11 x				
Output				
Action Output				
#	Time	Action	Message	Duration / Fetch
32	15:35:43	SELECT * FROM T LIMIT 0, 1000	4 row(s) returned	0.000 sec / 0.000 sec
33	15:35:44	ROLLBACK	0 row(s) affected	0.000 sec
34	15:35:44	SELECT * FROM T LIMIT 0, 1000	3 row(s) returned	0.000 sec / 0.000 sec
35	15:36:36	INSERT INTO T (id, s) VALUES (5, 'fifth')	1 row(s) affected	0.016 sec
36	15:36:36	ROLLBACK	0 row(s) affected	0.000 sec
37	15:36:36	SELECT * FROM T LIMIT 0, 1000	4 row(s) returned	0.000 sec / 0.000 sec

Exercise 1.3

```
Query 1 x
Limit to 1000 rows
1 • SET AUTOCOMMIT = 0;
2 • DELETE FROM T WHERE id > 1;
3 • COMMIT;
4 • INSERT INTO T (id, s) VALUES (6, 'sixth');
5 • INSERT INTO T (id, s) VALUES (7, 'seventh');
6 • SELECT * FROM T;
7 • ROLLBACK;
8 • SELECT * FROM T;
9
```

Output:

Result Grid				
id	s	si		
1	first	NAME		
	NAME	NAME		

#	Time	Action	Message	Duration / Fetch
40	15:38:18	COMMIT	0 row(s) affected	0.015 sec
41	15:38:18	INSERT INTO T (id, s) VALUES (6, 'sixth')	1 row(s) affected	0.000 sec
42	15:38:18	INSERT INTO T (id, s) VALUES (7, 'seventh')	1 row(s) affected	0.000 sec
43	15:38:18	SELECT * FROM T LIMIT 0, 1000	3 row(s) returned	0.000 sec / 0.000 sec
44	15:38:18	ROLLBACK	0 row(s) affected	0.000 sec
45	15:38:18	SELECT * FROM T LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec

Exercise 1.4

```

1 • SET AUTOCOMMIT=0;
2 • DELETE FROM T WHERE id > 1;
3 • DROP TABLE T2; --
4 • COMMIT;
5 • SET AUTOCOMMIT=0;
6 • INSERT INTO T (id, s) VALUES (9, 'will this be committed?');
7 • CREATE TABLE T2 (id INT);
8 • INSERT INTO T2 (id) VALUES (1);
9 • SELECT * FROM T2;
10 • ROLLBACK;
11 • SELECT * FROM T; -- What has happened to T ?
12 • SELECT * FROM T2; -- What has happened to T2 ?
13 • SELECT * FROM T3; -- assuming that we have not created table T3
14 • SHOW TABLES;
15 • DROP TABLE T2;
16 • COMMIT;

```

Output:

#	Time	Action	Message
43	15:38:18	SELECT * FROM T LIMIT 0, 1000	3 row(s) returned
44	15:38:18	ROLLBACK	0 row(s) affected
45	15:38:18	SELECT * FROM T LIMIT 0, 1000	1 row(s) returned
46	15:40:37	SET AUTOCOMMIT=0	0 row(s) affected
47	15:40:37	DELETE FROM T WHERE id > 1	0 row(s) affected
48	15:40:37	DROP TABLE T2	Error Code: 1051. Unknown table 'cbscu4cys23036.t2'

Exercise 1.5

```

Query 1 x
Limit to 2000 rows

1 • SET AUTOCOMMIT=0;
2 • DELETE FROM T WHERE id > 1;
3 • COMMIT;
4 • SELECT * FROM T;
5 • COMMIT;
6 • SET AUTOCOMMIT=0;
7 • INSERT INTO T (id, s) VALUES (2, 'Error test starts here');
8 • SELECT (1/0) AS dummy FROM DUAL;
9 • UPDATE T SET s = 'foo' WHERE id = 9999 ;
10 • DELETE FROM T WHERE id = 7777 ;
11 • INSERT INTO T (id, s) VALUES (2, 'Hi, I am a duplicate');
12 • INSERT INTO T (id, s)
13     VALUES (3, 'How about inserting too long of a string value?');
14 • INSERT INTO T (id, s, si) VALUES (4, 'Smallint overflow for 32769?', 32769);
15 • SHOW ERRORS;
16 • SHOW WARNINGS;
17 • INSERT INTO T (id, s) VALUES (5, 'Is the transaction still active?');
18 • SELECT * FROM T;
19 • COMMIT;
20 • DELETE FROM T WHERE id > 1;
21 • SELECT * FROM T;
22 • COMMIT;

```

Output:

Result Grid			
dummy			
Result Grid			
Form Editor			
Field Types			
Read Only			
Output			
Action Output			
#	Time	Action	Message
54	15:42:04	SET AUTOCOMMIT=0	0 row(s) affected
55	15:42:04	INSERT INTO T (id, s) VALUES (2, 'Error test starts here')	1 row(s) affected
56	15:42:04	SELECT (1/0) AS dummy FROM DUAL LIMIT 0, 2000	1 row(s) returned
57	15:42:04	UPDATE T SET s = 'foo' WHERE id = 9999	0 row(s) affected Rows matched: 0 Changed: 0 Warnings: 0
58	15:42:04	DELETE FROM T WHERE id = 7777	0 row(s) affected
59	15:42:04	INSERT INTO T (id, s) VALUES (2, 'Hi, I am a duplicate')	Error Code: 1062. Duplicate entry '2' for key 't.PRIMARY'
		Duration / Fetch	
		0.000 sec	
		0.000 sec	
		0.000 sec / 0.000 sec	
		0.000 sec	
		0.000 sec	
		0.000 sec	

Exercise 1.6

Query 1

```

1 • DROP TABLE Accounts;
2 • SET AUTOCOMMIT=0;
3 • CREATE TABLE Accounts (
4 •   acctID INTEGER NOT NULL PRIMARY KEY,
5 •   balance INTEGER NOT NULL CONSTRAINT unloanable_account CHECK (balance >= 0)
6 • );
7 • CREATE TABLE Accounts (
8 •   acctID INTEGER NOT NULL PRIMARY KEY,
9 •   balance INTEGER NOT NULL ,
10 •   CONSTRAINT unloanable_account CHECK (balance >= 0)
11 • ) ENGINE = InnoDB;
12 • INSERT INTO Accounts (acctID, balance) VALUES (100,-1000);
13 • SELECT * FROM Accounts;
14 • ROLLBACK;
15 • SET AUTOCOMMIT=0;
16 • INSERT INTO Accounts (acctID, balance) VALUES (101, 1000);
17 • INSERT INTO Accounts (acctID, balance) VALUES (202, 2000);
18 • SELECT * FROM Accounts;
19 • COMMIT;
20 • UPDATE Accounts SET balance = balance - 100 WHERE acctID = 101;
21 • UPDATE Accounts SET balance = balance + 100 WHERE acctID = 202;
22 • SELECT * FROM Accounts;
23 • ROLLBACK;
24 • UPDATE Accounts SET balance = balance - 2000 WHERE acctID = 101;
25 • UPDATE Accounts SET balance = balance + 2000 WHERE acctID = 202;
26 • SELECT * FROM Accounts ;
27 • ROLLBACK;
28 • UPDATE Accounts SET balance = balance - 500 WHERE acctID = 101;
29 • UPDATE Accounts SET balance = balance + 500 WHERE acctID = 777;
30 • SELECT * FROM Accounts ;
31 • ROLLBACK;

```

Output:

#	Time	Action	Message	Duration / Fetch
55	15:42:04	INSERT INTO T (id, s) VALUES (2, 'Error test starts here')	1 row(s) affected	0.000 sec
56	15:42:04	SELECT (1/0) AS dummy FROM DUAL LIMIT 0, 2000	1 row(s) returned	0.000 sec / 0.000 sec
57	15:42:04	UPDATE T SET s = 'foo' WHERE id = 9999	0 row(s) affected Rows matched: 0 Changed: 0 Warnings: 0	0.000 sec
58	15:42:04	DELETE FROM T WHERE id = 7777	0 row(s) affected	0.000 sec
59	15:42:04	INSERT INTO T (id, s) VALUES (2, 'H, I am a duplicate')	Error Code: 1062 Duplicate entry '2' for key 'T.PRIMARY'	0.000 sec
60	15:43:33	DROP TABLE Accounts	Error Code: 1051 Unknown table 'cbscu4cys23036.accounts'	0.016 sec

Exercise 1.7

Query 1 x

Limit to 2000 rows

```
1 • SET AUTOCOMMIT = 0;
2   INSERT INTO T (id, s) VALUES (9, 'Let''s see what happens if ..');
3 • SELECT * FROM T;
4
```

Result Grid

	id	s	sl
1	first		NULL
2	Error test starts here		NULL
9	Let's see what happens if ..		NULL

T 16 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
58	15:42:04	DELETE FROM T WHERE id = 7777	0 row(s) affected	0.000 sec
59	15:42:04	INSERT INTO T (id, s) VALUES (2, 'I am a duplicate')	Error Code: 1062. Duplicate entry '2' for key 't.PRIMARY'	0.000 sec
60	15:43:33	DROP TABLE Accounts	Error Code: 1051. Unknown table 'cbacu4cys23036.accounts'	0.016 sec
61	15:44:53	SET AUTOCOMMIT = 0	0 row(s) affected	0.000 sec
62	15:44:53	INSERT INTO T (id, s) VALUES (9, 'Let's see what happens if ..')	1 row(s) affected	0.000 sec
63	15:44:53	SELECT * FROM T LIMIT 0, 2000	3 row(s) returned	0.000 sec / 0.000 sec