

Daniel Lambert

**1)**

**1.1)**

```
create table lab2_course (id char (10) primary key, name char (30) not null, credit int not null);
```

Query OK, 0 rows affected (0.01 sec)

```
create table lab2_student (id char (10) primary key, name char (10) not null);
```

Query OK, 0 rows affected (0.03 sec)

```
create table lab2_takes (id char (10), course_id char (10), grade char, primary key (id, course_id), foreign key (id) references lab2_student (id), foreign key (course_id) references lab2_course (id));
```

Query OK, 0 rows affected (0.02 sec)

**1.2)**

```
insert into lab2_course values ("cs4421", "Database", 3);
```

Query OK, 1 row affected (0.00 sec)

```
insert into lab2_course values ('cs4461', "Network", 3);
```

Query OK, 1 row affected (0.00 sec)

```
insert into lab2_student values ('S001', "Alice");
```

Query OK, 1 row affected (0.00 sec)

```
insert into lab2_student values ('S002', "Mike");
```

Query OK, 1 row affected (0.00 sec)

**2)**

**2.1)**

```
delimiter //
```

**2.2)**

```
create procedure enroll (id char (10), course_id char (10) )
```

```
-> begin
```

```
-> insert into lab2_takes values (id, course_id, Null);
```

```
-> end //
```

Query OK, 0 rows affected (0.00 sec)

**2.3)**

```
call enroll('S001','CS4421') //
```

Query OK, 1 row affected (0.00 sec)

```
select* from lab2_takes //
```

```
+-----+-----+-----+
```

```
| id | course_id | grade |
```

```
+-----+-----+-----+
```

```
| S001 | CS4421 | NULL |
```

```
+-----+-----+-----+
```

1 row in set (0.00 sec)

**2.4)**

```
grant execute on procedure enroll to 'cs3425gr'@'%' //
```

Query OK, 0 rows affected (0.00 sec)

**3)**

**3.1)**

create function enrolled(c\_id char(10))

-> returns int

-> begin

-> declare total int;

-> select count(\*) into total from lab2\_takes where course\_id = c\_id;

-> return total;

-> end //

Query OK, 0 rows affected (0.00 sec)

**3.2)**

select enrolled('cs4421')//

+-----+		
	enrolled('cs4421')	
+-----+		
	1	
+-----+		

1 row in set (0.00 sec)

mysql> select enrolled('cs4461')//

+-----+		
	enrolled('cs4461')	
+-----+		
	0	
+-----+		

1 row in set (0.00 sec)

select \* from lab2\_takes //

+-----+-----+-----+		
id	course_id	grade
+-----+-----+-----+		
S001	CS4421	NULL
+-----+-----+-----+		

1 row in set (0.00 sec)

**3.3)**

grant execute on function enrolled to 'cs3425gr'@'%' //

Query OK, 0 rows affected (0.00 sec)

**Part 2**

**1)**

**1.1)**

alter table lab2\_student add total\_credits int default 0;

Query OK, 2 rows affected (0.02 sec)  
Records: 2 Duplicates: 0 Warnings: 0

### 1.2)

create trigger update\_credits

- > after update on lab2\_takes
- > for each row
- > begin
- > if OLD.id = NEW.id and OLD.course\_id = NEW.course\_id
- > and ( OLD.grade is null or OLD.grade = 'F')
- > and NEW.grade is not null and NEW.grade != 'F' then
- > update lab2\_student
- > set total\_credits = total\_credits +
- > (select credit
- > from lab2\_course
- > where id = OLD.course\_id )
- > where id=NEW.id;
- > end if;
- > End //

Query OK, 0 rows affected (0.01 sec)

### 1.3)

select \* from lab2\_student;

- > select \* from lab2\_takes;
- > update lab2\_takes set grade = 'A' where id = 'S001';
- > select \* from lab2\_student;
- > //

+-----+-----+-----+		
id	name	total_credits
+-----+-----+-----+		
S001	Alice	0
S002	Mike	0
+-----+-----+-----+		

2 rows in set (0.00 sec)

+-----+-----+-----+		
id	course_id	grade
+-----+-----+-----+		
S001	CS4421	NULL
+-----+-----+-----+		

1 row in set (0.01 sec)

Query OK, 1 row affected (0.01 sec)

Rows matched: 1 Changed: 1 Warnings: 0

```

+-----+-----+-----+
| id | name | total_credits |
+-----+-----+-----+
| S001 | Alice | 3 |
| S002 | Mike | 0 |
+-----+-----+-----+
2 rows in set (0.01 sec)

```

### Part 3

1)

1.1)

create table lab2\_account (account\_number char(10) primary key, balance double not null) //

Query OK, 0 rows affected (0.01 sec)

1.2)

Insert into lab2\_account values('A001', 100);

Query OK, 1 row affected (0.00 sec)

Insert into lab2\_account values('B001',999);

Query OK, 1 row affected (0.00 sec)

Insert into lab2\_account values('C001', 99.99);

Query OK, 1 row affected (0.00 sec)

2)

In code

3)

In code

4)

In code

5)

5.2)

javac JDBCCLab.java

5.3)

java -cp ./usr/share/java/mysql-connector-java.jar JDBCCLab

5.4)

In code

6)

The bug is that it sets the balance for all of the accounts instead of the specified account

java -cp ./usr/share/java/mysql-connector-java.jar JDBCCLab

Please enter your name:djlamber

Please enter your password:

A001,0

B001,999

C001,99.99

7)

### **7.2)**

The trick did not work with my code

```
java -cp ./usr/share/java/mysql-connector-java.jar JDBC Lab
```

Please enter your name:djlamber

Please enter your password:

A001,-100

B001,999

C001,99.99

Something is wrong!!! You are updating 0 rows

### **7.3)**

```
java -cp ./usr/share/java/mysql-connector-java.jar JDBC Lab
```

Please enter your name:djlamber

Please enter your password:

A001,-200

B001,999

C001,99.99

Something is wrong!!! You are updating 0 rows

Something is wrong!!! You are updating 0 rows