《数据库系统原理》实验报告（）					
题目：数据库安全性					
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实验环境：docer 下的 mariadb 容器

实验步骤及结果截图：

1. 创建表 studentA:

```
MariaDB [sys]> create table studentA(
    -> Sno varchar(9),
    -> Sname varchar(20) unique,
    -> Ssex varchar(2),
    -> Sage smallint,
    -> Sdept varchar(20),
    -> primary key(Sno));
Query OK, 0 rows affected (0.024 sec)
```

2. 插入两个元组

```
MariaDB [sys]> insert into studentA values(
    -> '200215121','Tom','m',20,'CS');
Query OK, 1 row affected (0.008 sec)

MariaDB [sys]> insert into studentA values(
    -> '200215100','Lily','f',19,'CS');
Query OK, 1 row affected (0.007 sec)
```

3. 创建 masterA 并授予 masterA 系统特权

①创建用户

```
MariaDB [mysql]> create user 'masterA' identified by 'masterA';
Query OK, 0 rows affected (0.002 sec)
```

②授予权限

```
MariaDB [sys]> grant create, alter, drop on *.* to 'masterA' with grant option;
Query OK, 0 rows affected (0.001 sec)
```

4. 删除系统特权

```
MariaDB [sys]> revoke create, alter, drop on *.* from 'masterA';
Query OK, 0 rows affected (0.001 sec)
```

5. 查询 studentA

```
MariaDB [(none)]> select * from sys.studentA;
ERROR 1142 (42000): SELECT command denied to user 'masterA'@'localhost' for table `sys`.`studentA`
```

6. 再授予权限

```
MariaDB [(none)]> grant select, insert, update on sys.studentA to 'masterA';
Query OK, 0 rows affected (0.007 sec)
```

7. 使用 masterA 进行查询操作

```
# mariadb -u masterA -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 9
Server version: 11.1.2-MariaDB-1:11.1.2+maria~ubu2204 mariadb.org binary distribution

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Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [(none)]> select * from sys.studentA;
+-----------+-------+------+------+-------+
| Sno       | Sname | Ssex | Sage | Sdept |
+-----------+-------+------+------+-------+
| 200215100 | Lily  | f    |   19 | CS    |
| 200215121 | Tom   | m    |   20 | CS    |
+-----------+-------+------+------+-------+
2 rows in set (0.000 sec)
```

8. 使用 masterA 进行插入操作

```
MariaDB [(none)]> insert into sys.studentA values('200215123','Bob','m','21','IS');
Query OK, 1 row affected (0.007 sec)

MariaDB [(none)]> select * from sys.studentA;
+-----------+-------+------+------+-------+
| Sno       | Sname | Ssex | Sage | Sdept |
+-----------+-------+------+------+-------+
| 200215100 | Lily  | f    |   19 | CS    |
| 200215121 | Tom   | m    |   20 | CS    |
| 200215123 | Bob   | m    |   21 | IS    |
+-----------+-------+------+------+-------+
3 rows in set (0.000 sec)
```

9. 删除 masterA 用户

```
MariaDB [(none)]> exit;
Bye
# mariadb -u root -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 10
Server version: 11.1.2-MariaDB-1:11.1.2+maria~ubu2204 mariadb.org binary distribution

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Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [(none)]> drop user masterA;
Query OK, 0 rows affected (0.007 sec)
```

出现的问题：

在开始进行系统特权授予的时候，我找不到 create session 特权对应的关键字，在网上查询资料也找不到答案，因此在授予权限的这一步遇到了困难

解决方案：

向同学请教后明白在 mysql 中并没有单独的授予 create session 权限，赋予 create 权限即可