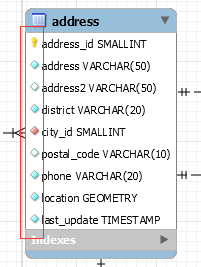
实验一报告

# 回答问题

请一边熟悉sakila数据库，一边回答以下问题：

1. sakila.mwb模型中，表结构里每个字段前面的小标记分别表示什么意思？ （观察字段的属性）



|  |  |
| --- | --- |
| 标记 | 意义 |
|  | 表示该字段是主键 |
|  | 表示该字段不能为空 |
|  | 表示该字段可以为空 |
|  | 表示该字段不能为空且为外键 |

2. 图中哪部分体现影片-演员关系？换句话说，如果要找出演某个影片的演员名字，访问哪几张表可以获得信息？

film\_actor

film\_actor表、actor表和film表

3. 如果已知某个顾客姓名，要找到他租借的所有影片名，需要访问哪几张表？

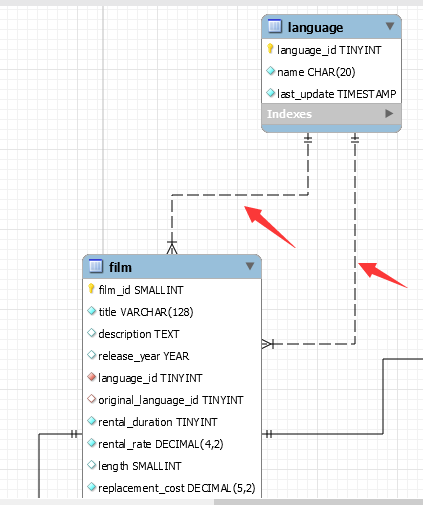
customer表、rental表、inventory表、film表

4. film和language表间的2条虚线表示什么意思？

虚线表示non-identify relationship表示的是子表格和母表格之间没有很强的联系。 子表格里的每一行可能和母表格里的某一行相关。

即language\_id作为language表的主键是film表的外键

1：n表示一个language\_language\_id可以对应多个film\_language\_id和film\_original\_id



# 实验截图

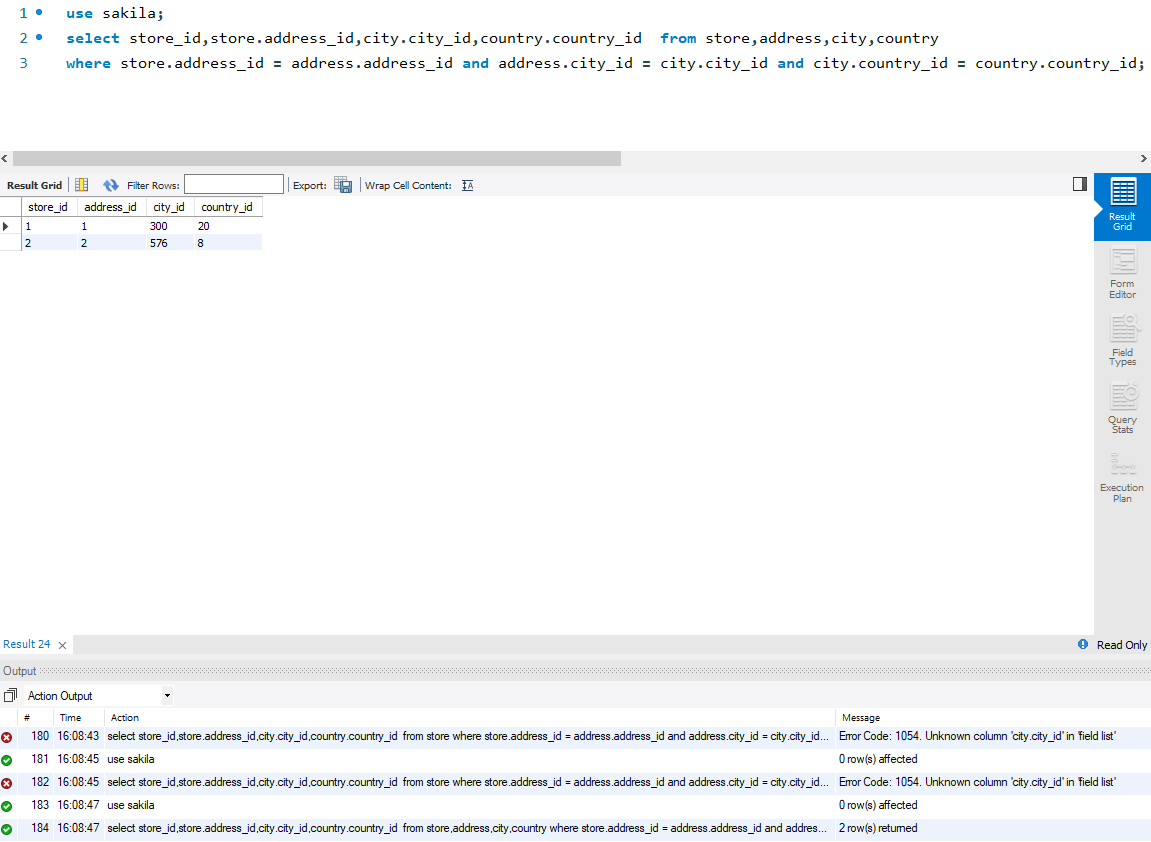
*（注意截图清晰，截图时需要体现SQL语句、执行结果、Output窗口）*

1. 请列出所有商店的详细地址，显示商店id，商店地址，所在区域，所在城市，所在国家；

use sakila;

select store\_id,store.address\_id,city.city\_id,country.country\_id from store,address,city,country

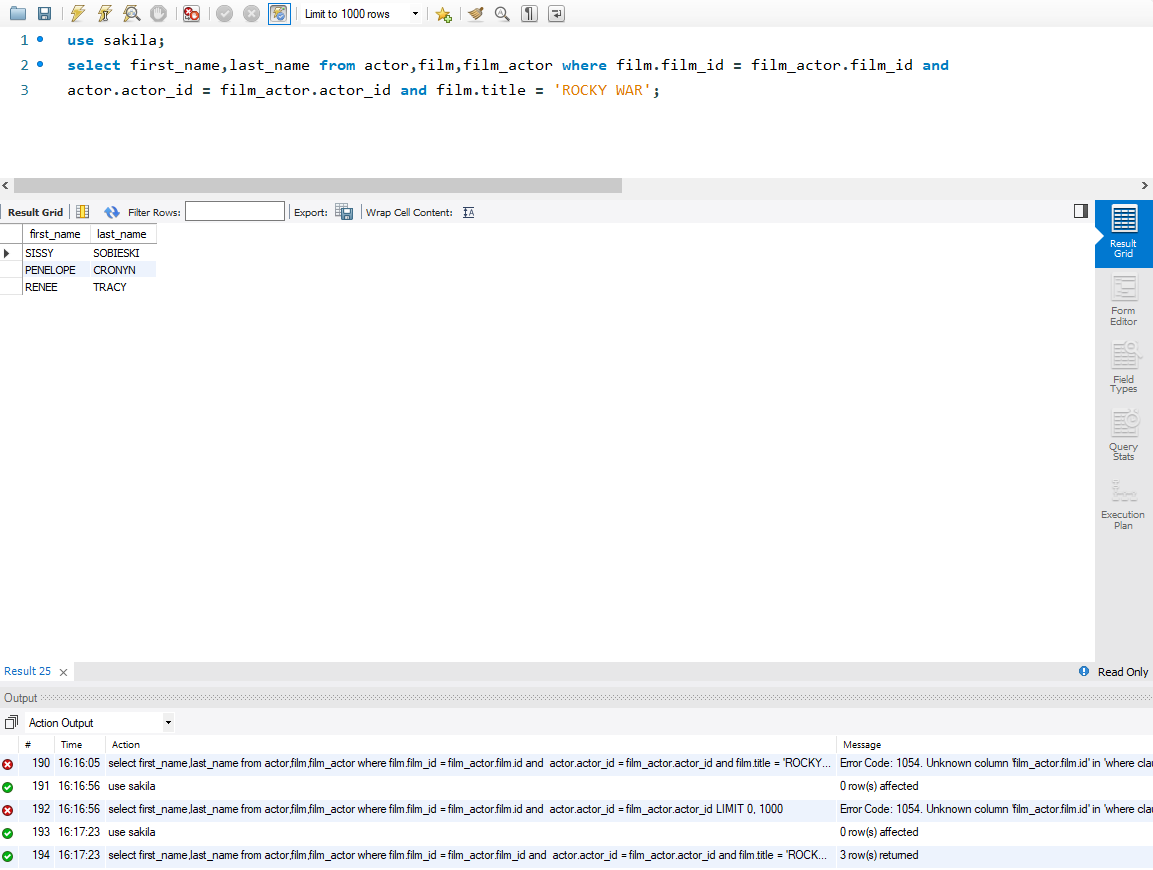
where store.address\_id = address.address\_id and address.city\_id = city.city\_id and city.country\_id = country.country\_id;



1. 哪些演员出演过影片《ROCKY WAR》？请列出他的first\_name, last\_name；

use sakila;

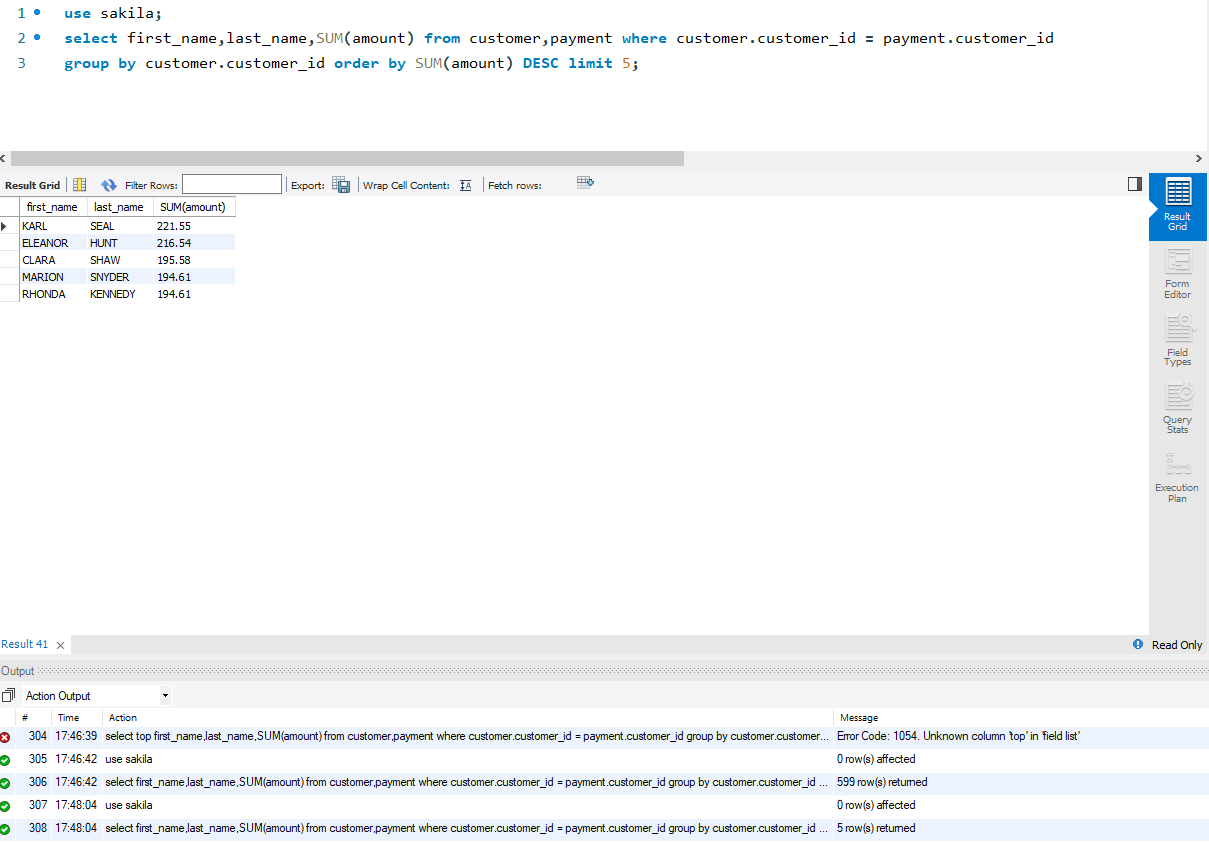
select first\_name,last\_name from actor,film,film\_actor where film.film\_id = film\_actor.film\_id and actor.actor\_id = film\_actor.actor\_id and film.title = 'ROCKY WAR';



1. 找出租DVD花费最高的前5名，请列出他们的first\_name, last\_name和每个人花费的金额；

use sakila;

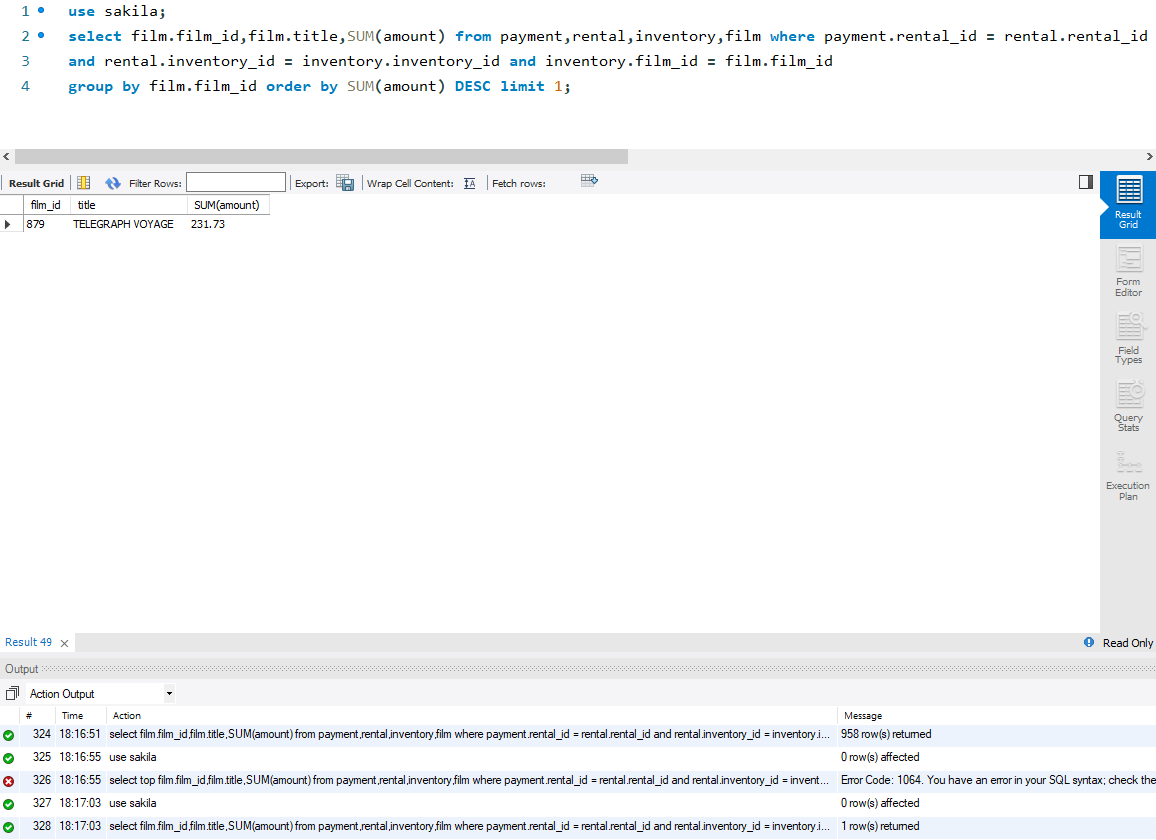
select first\_name,last\_name,SUM(amount) from customer,payment where customer.customer\_id = payment.customer\_id group by customer.customer\_id order by SUM(amount) DESC limit 5;



1. 哪个影片获得了总体最高的租金？请列出影片id、影片名、总租金；

use sakila;

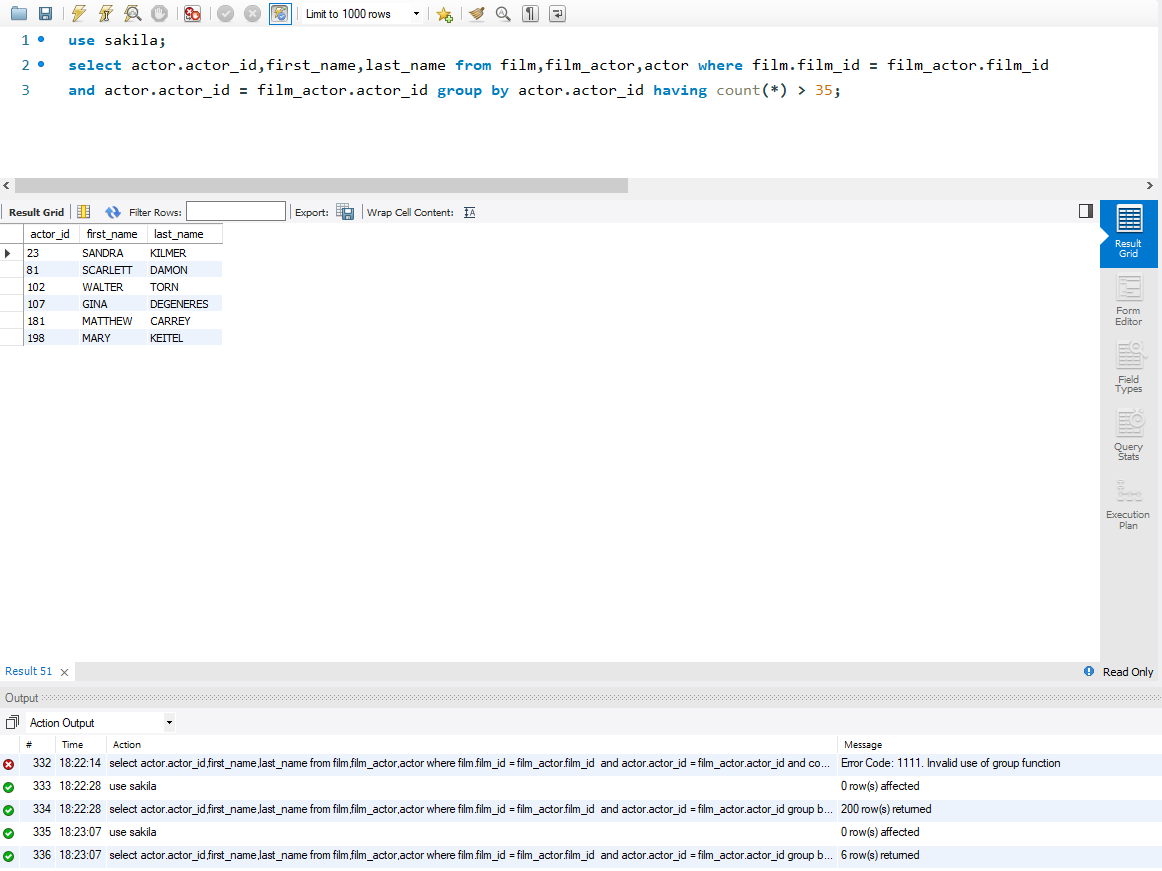
select film.film\_id,film.title,SUM(amount) from payment,rental,inventory,film where payment.rental\_id = rental.rental\_id and rental.inventory\_id = inventory.inventory\_id and inventory.film\_id = film.film\_id group by film.film\_id order by SUM(amount) DESC limit 1;



1. 哪个演员出演的电影超过35部？ 请列出演员id、演员名、出演的电影数；

use sakila;

select actor.actor\_id,first\_name,last\_name from film,film\_actor,actor where film.film\_id = film\_actor.film\_id and actor.actor\_id = film\_actor.actor\_id group by actor.actor\_id having count(\*) > 35;



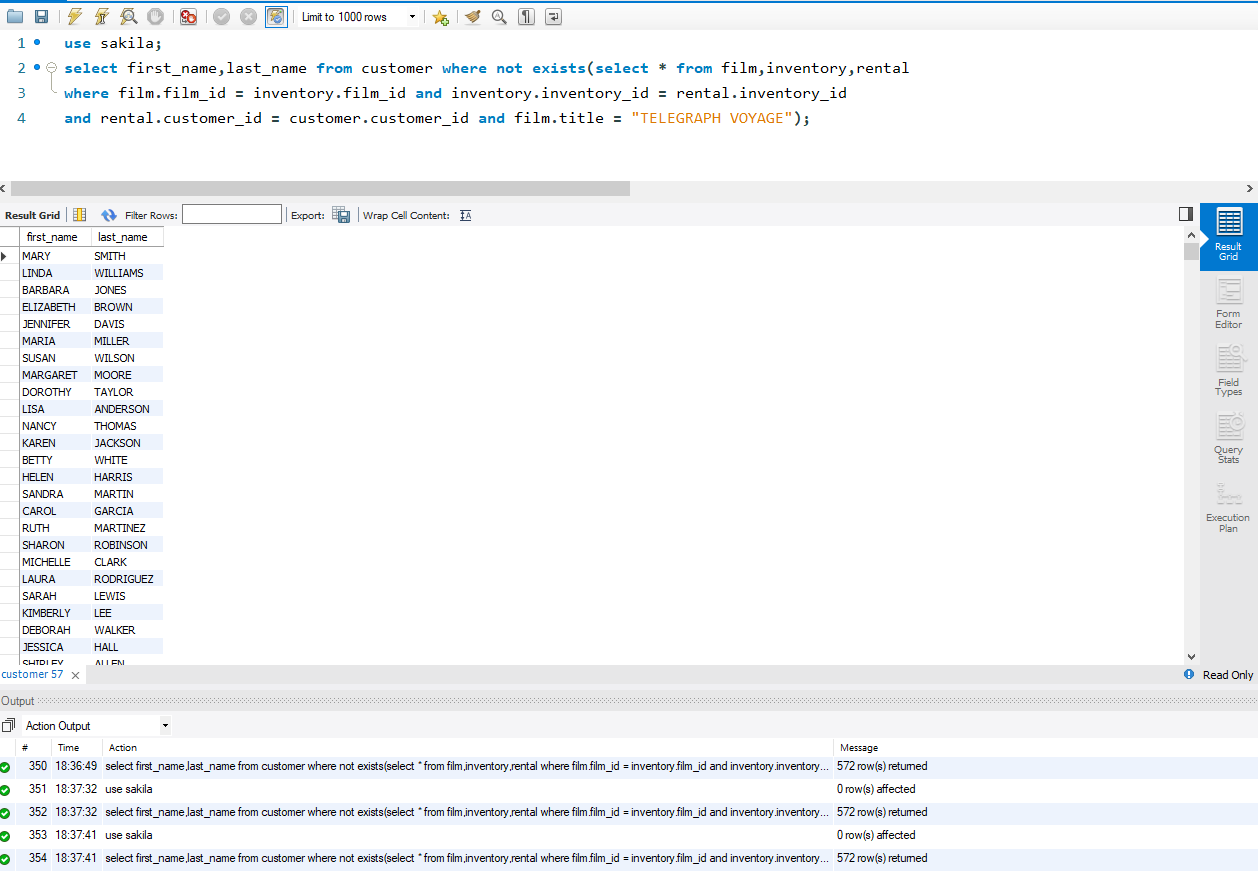
1. 请找出没有租借过电影《TELEGRAPH VOYAGE》的顾客姓名；

use sakila;

select first\_name,last\_name from customer where not exists(select \* from film,inventory,rental

where film.film\_id = inventory.film\_id and inventory.inventory\_id = rental.inventory\_id

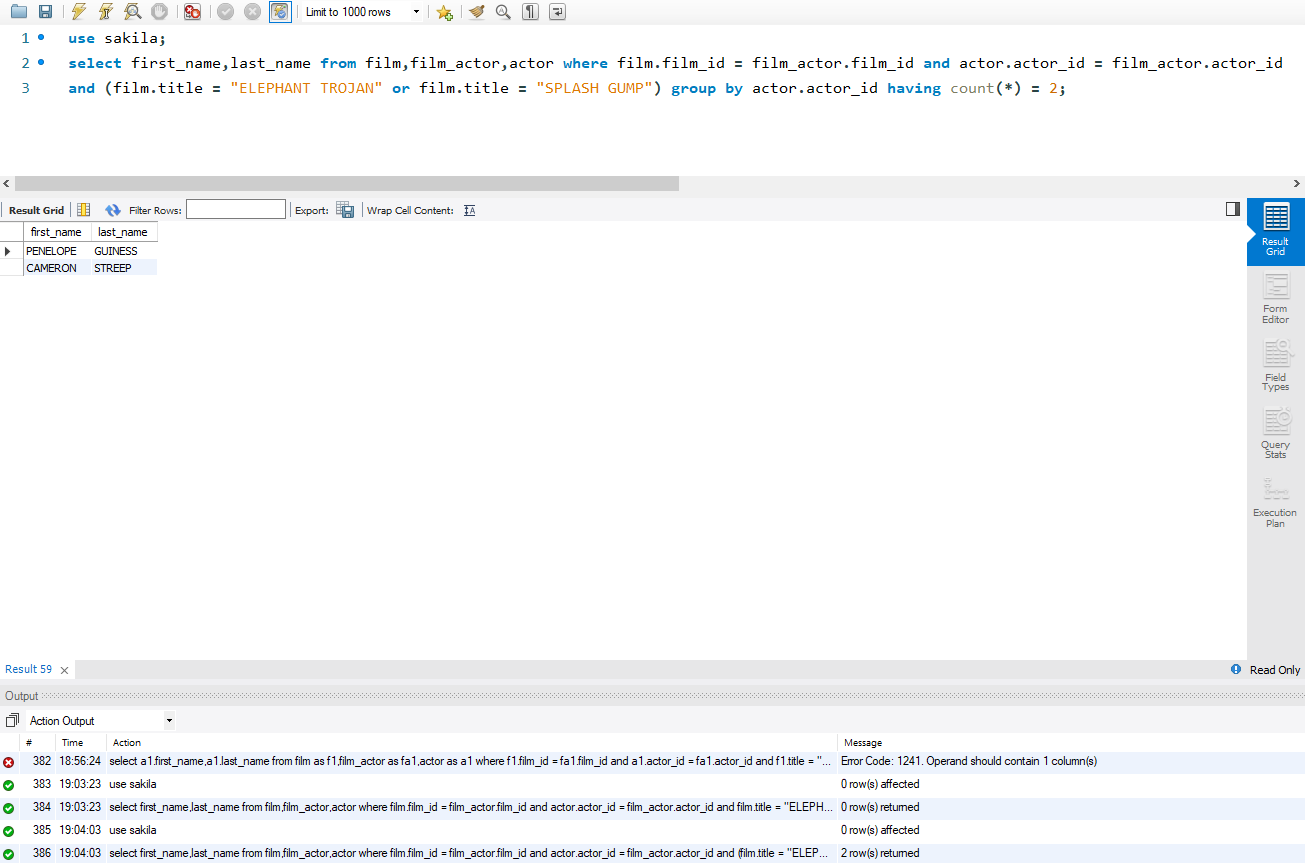
and rental.customer\_id = customer.customer\_id and film.title = "TELEGRAPH VOYAGE");



1. 查询演过《ELEPHANT TROJAN》和《SPLASH GUMP》这两部电影的演员，列出其姓名；

use sakila;

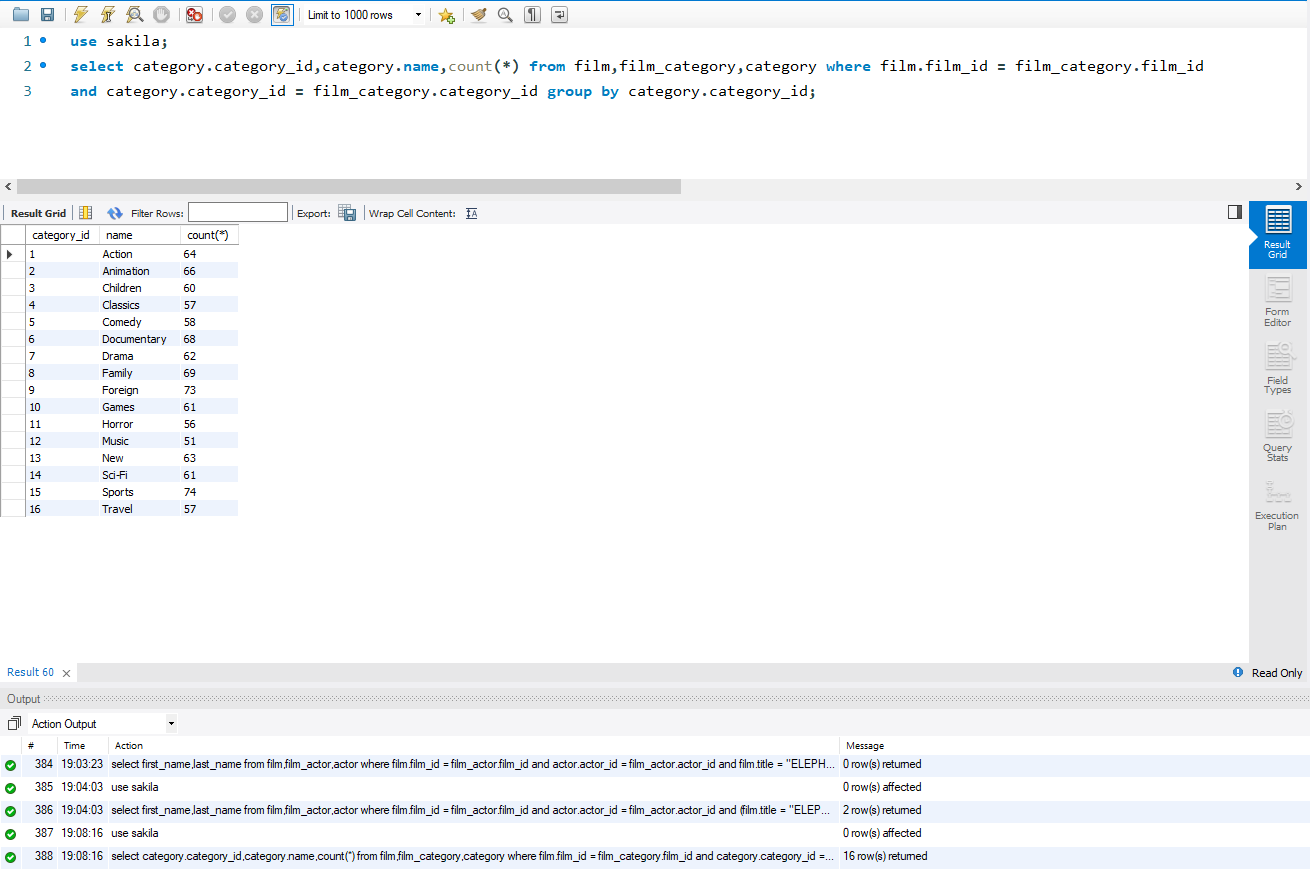
select first\_name,last\_name from film,film\_actor,actor where film.film\_id = film\_actor.film\_id and actor.actor\_id = film\_actor.actor\_id and (film.title = "ELEPHANT TROJAN" or film.title = "SPLASH GUMP") group by actor.actor\_id having count(\*) = 2;



1. 统计每种类型的影片数，显示类型编号、类型名称、该类型影片数；

use sakila;

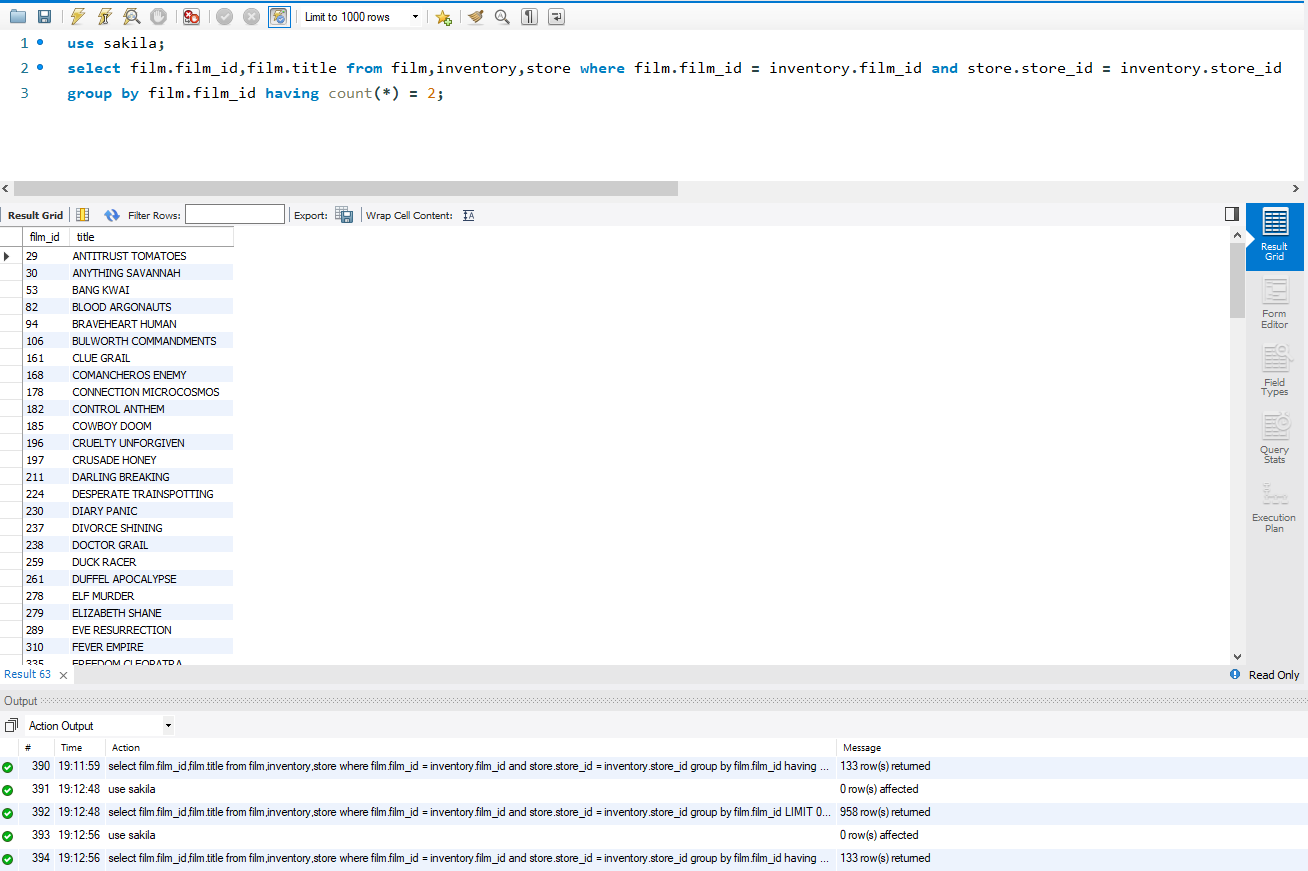
select category.category\_id,category.name,count(\*) from film,film\_category,category where film.film\_id = film\_category.film\_id and category.category\_id = film\_category.category\_id group by category.category\_id;



1. 有哪些影片是2个商店都有库存的？

use sakila;

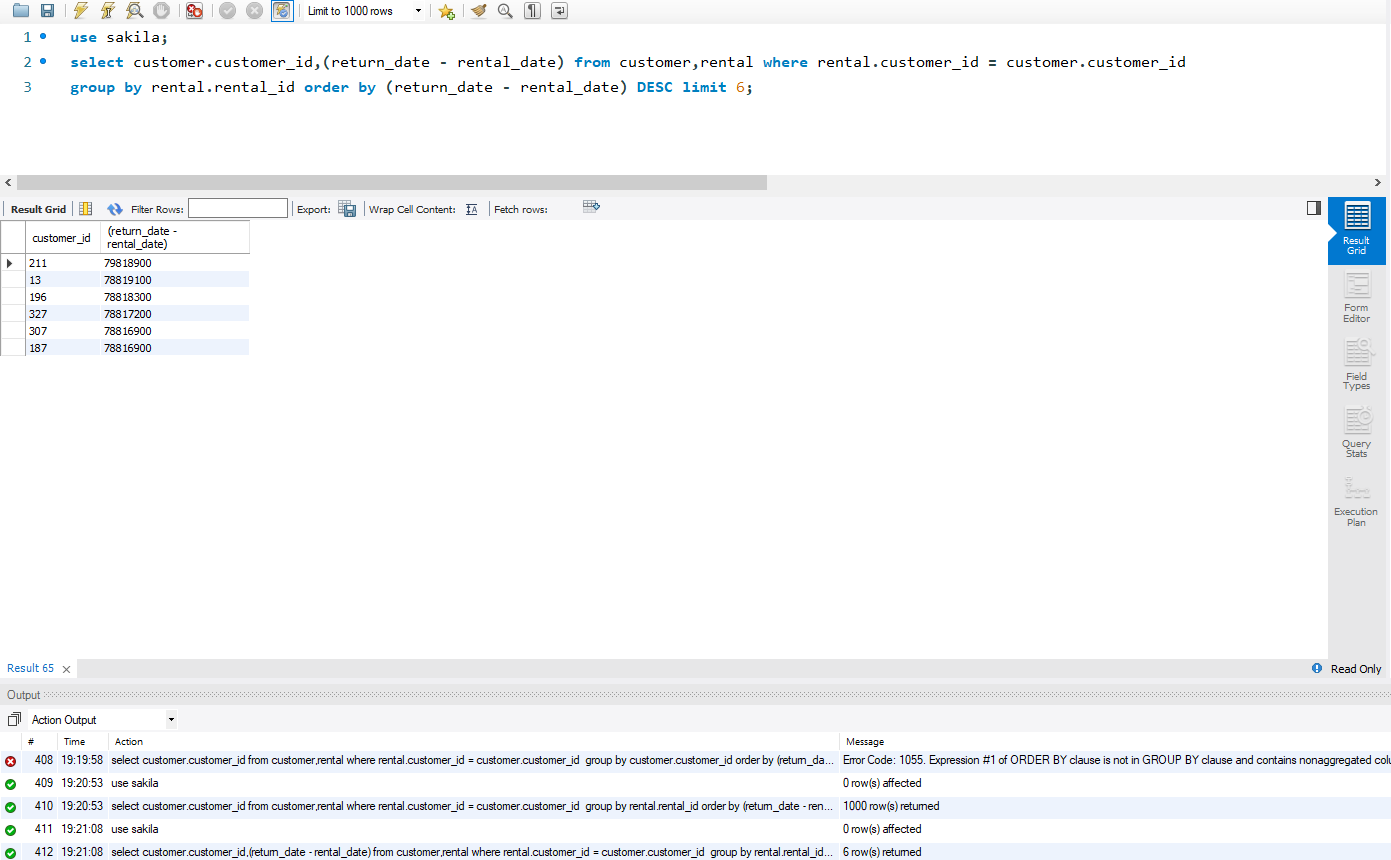
select film.film\_id,film.title from film,inventory,store where film.film\_id = inventory.film\_id and store.store\_id = inventory.store\_id group by film.film\_id having count(\*) = 2;



1. 查询单次租借影片时间最长的6位客户，列出其first\_name、last\_name和当次租借时长；

use sakila;

select customer.customer\_id,(return\_date - rental\_date) from customer,rental where rental.customer\_id = customer.customer\_id group by rental.rental\_id order by (return\_date - rental\_date) DESC limit 6;



1. 在customer表中新增一条数据，注意customer表与其他表的关系；

use sakila;

insert into customer

values [(600,2,"haoyuan","deng","1595466987@qq.com",599,1,NOW(),null);](mailto:(600,2,\"haoyuan\",\"deng\",\"1595466987@qq.com\",599,1,NOW(),null);)

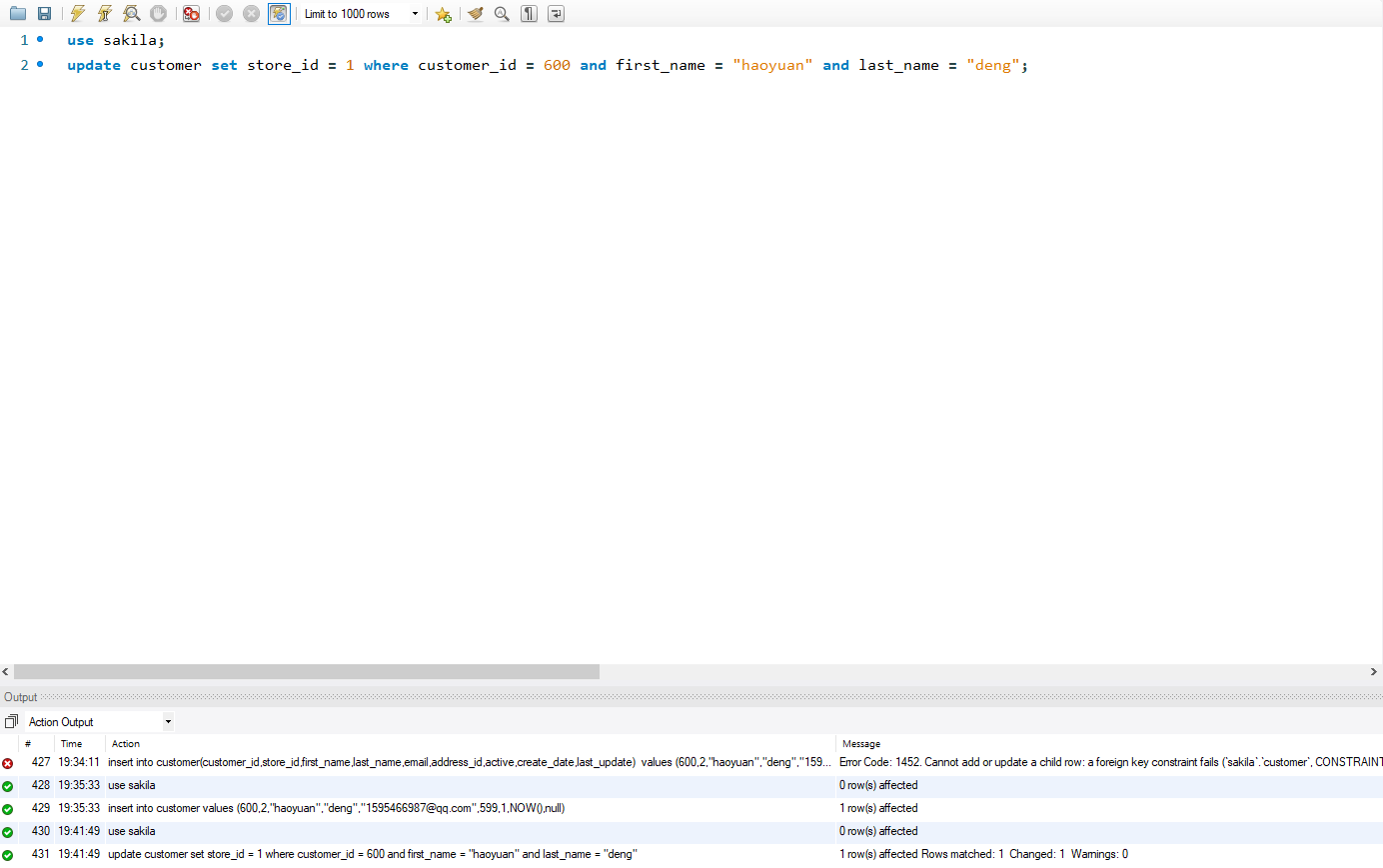
其中，store\_id和address\_id是外键，需要依赖于store表已有的store\_id和address表已有的address\_id，customer\_id是主键，不能和表中其他数据中的customer\_id冲突



1. 修改刚才在customer表中新增的那条数据；

use sakila;

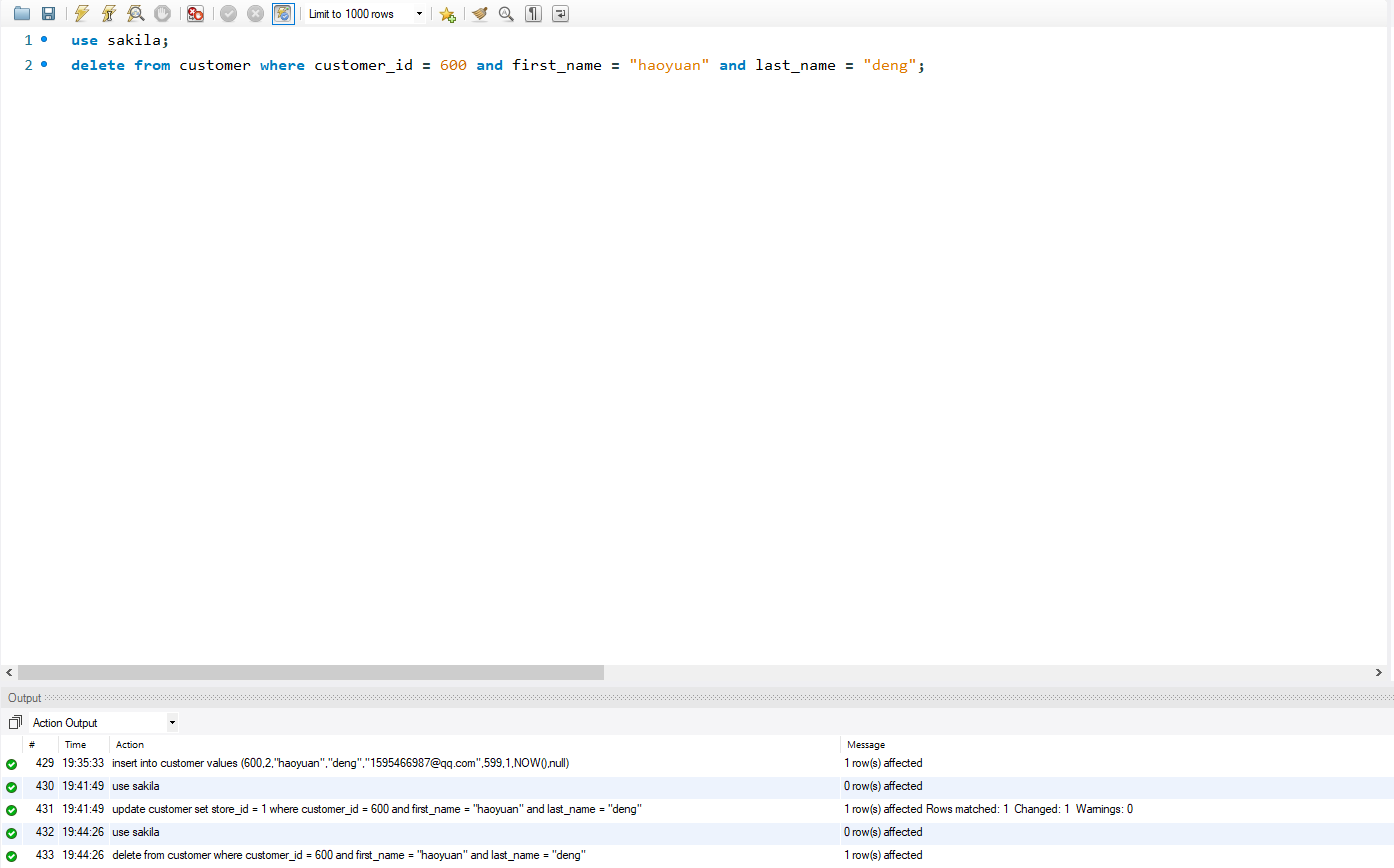
update customer set store\_id = 1 where customer\_id = 600 and first\_name = "haoyuan" and last\_name = "deng";



1. 删除第11步新增的那条数据。

use sakila;

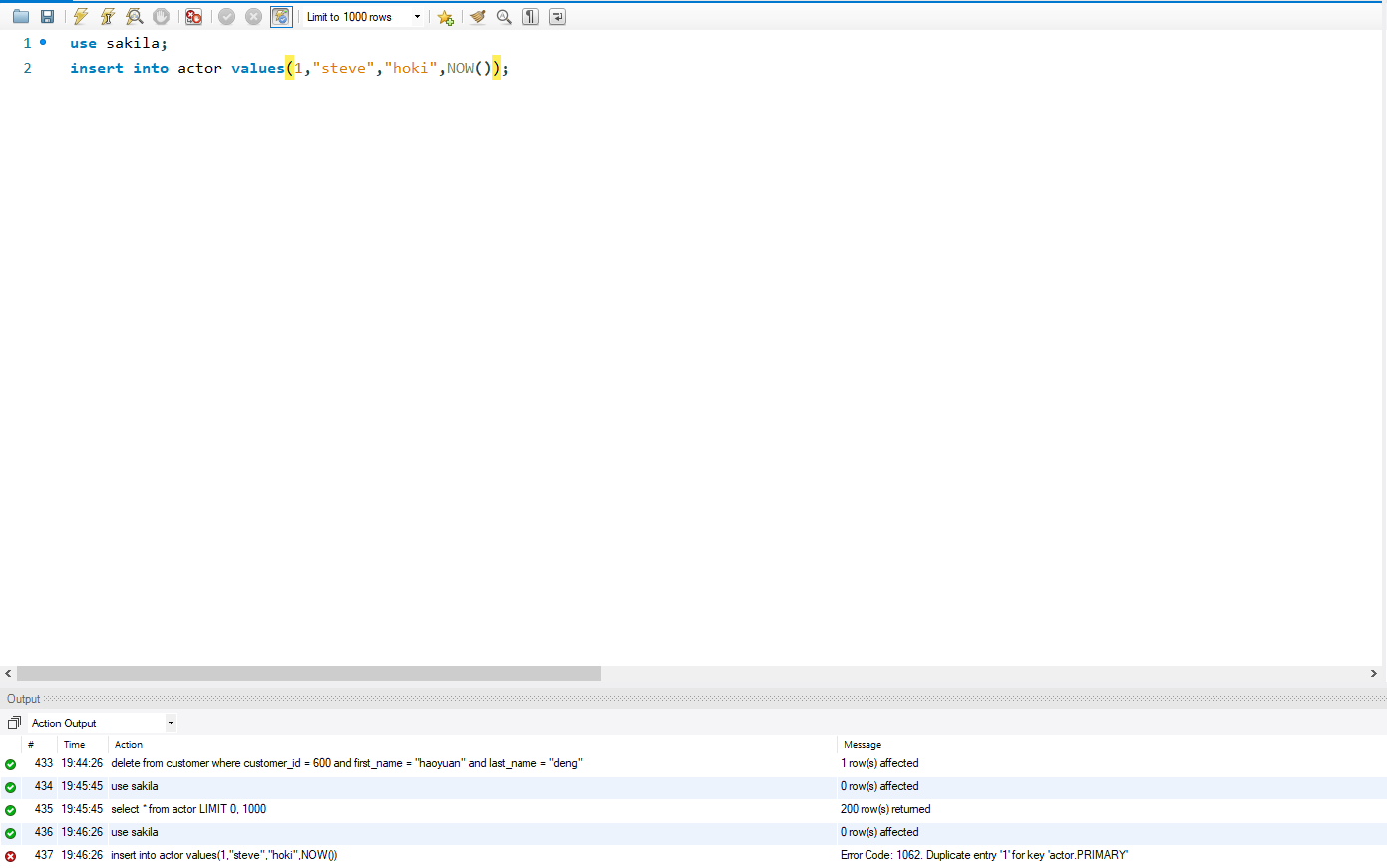
delete from customer where customer\_id = 600 and first\_name = "haoyuan" and last\_name = "deng";



# 思考题

1. 如果insert一条数据到actor表，但actor\_id和已有数据重复，会发生什么？同学们请自己尝试一下，截图并分析原因。

会产生代码为1062的错误，表示插入的数据主键和已有数据的主键重复，因为主键是用于区分每条数据和作为每条数据唯一性的判断依据，因此主键不能重复，主键重复的数据插入将会给数据库带来严重的后果，因此不允许插入



1. insert语句还用了一个函数NOW()，是做什么的呢？

函数NOW()是DATETIME或TIMESTAMP列的默认值。当INSERT语句中省略日期或时间值时，MySQL会将当前日期和时间插入到默认值为NOW ()的列中。