

《数据库概论》实验一：用 SQL 进行数据操作 实验报告

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一、实验环境

Windows10;

MySQL Shell 8.0.27;

MySQL Workbench 8.0 CE;

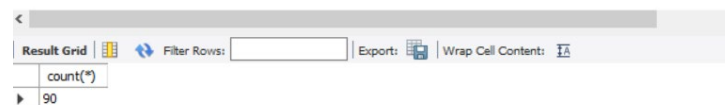
二、实验过程

1、

代码块：select count(*) from species where description like '%this%';



```
1 • select count(*) from species where description like '%this%';
2
```

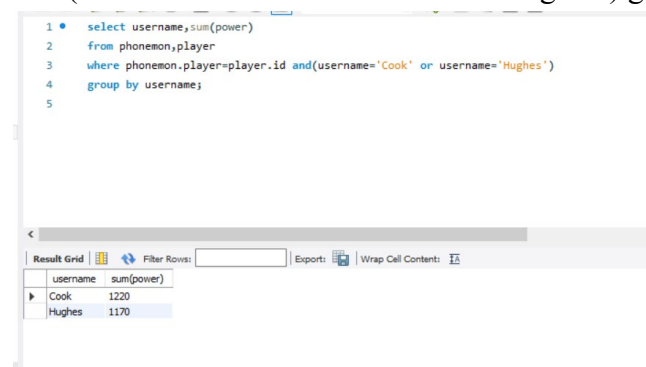


count(*)
90

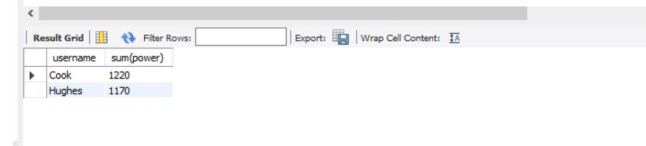
2、

代码块：

select username,sum(power) from phonemon,player where phonemon.player=player.id and (username='Cook' or username='Hughes') group by username ;



```
1 • select username,sum(power)
2   from phonemon,player
3  where phonemon.player=player.id and(username='Cook' or username='Hughes')
4  group by username;
5
```



username	sum(power)
Cook	1220
Hughes	1170

3、代码块：

Select team.id,count(*) c from team,player where player.team=team.id order by c desc;

```

1 • use phonemon;
2 • select team.id,count(*) c
3   from team,player
4  where player.team=team.id
5  group by team.id
6  order by c desc;
7
8

```

id	c
M	8
V	6
I	5

4、代码块：

Select distinct species.id,species.title from species where species.type1='12' or species.type2='12';

```

1 • use phonemon;
2 • select distinct species.id,species.title
3   from species
4  where species.type1='12' or species.type2='12';
5
6

```

id	title
1	Bulbasaur
2	Ivysaur
3	Venusaur
43	Oddish
44	Gloom
45	Vileplume
69	Bellossom
70	Weepinbell
71	Victreebel
107	Ravenscar

5、代码块：

Select distinct player.id,player.username from player where player.id not in (select purchase.player from purchase,food where purchase.item=food.id);

```

1 • select distinct player.id,player.username
2   from player
3  where player.id not in
4    (select purchase.player
5     from purchase,food
6    where purchase.item=food.id);
7

```

id	username
4	Reid
7	Hughes
8	Bruce
10	Lyons
11	Emily
12	Darthy
15	Huma

6、代码块：

Select player.level, sum(purchase.quantity*item.price) money from player,purchase,item where player.id=purchase.player and purchase.item=item.id group by level order by money desc;

```

1 • select player.level, sum(purchase.quantity*item.price) money
2   from player,purchase,item
3  where player.id=purchase.player and purchase.item=item.id
4  group by level
5  order by money desc;
6
7

```

level	money
2	130.68
12	95.45
6	62.37
5	52.98
3	51.75
1	39.58
4	33.74
8	29.48
11	26.97
7	24.26
10	17.22
9	9.99

7、代码块

Select purchase.item,item.title,sum(purchase.quantity) money from purchase,item where purchase.item=item.id group by purchase.item having money>=all(select sum(purchase.quantity) money from purchase,item where purchase.item=item.id group by purchase.item);

```

1 • select purchase.item,item.title,sum(purchase.quantity) money
2   from purchase,item
3  where purchase.item=item.id
4  group by purchase.item
5  having money>=all(
6    select sum(purchase.quantity) money
7    from purchase,item
8   where purchase.item=item.id
9   group by purchase.item);
10

```

item	title	money
1	Phoneball	24

8、代码块：

Select purchase.player,player.username,count(distinct item) from purchase,item,food,player where purchase.item=food.id and purchase.player=player.id group by player having count(distinct item)>=(select count(*) from food);

```

1 • select purchase.player,player.username,count(distinct item)
2   from purchase,item,food,player
3  where purchase.item=food.id and purchase.player=player.id
4  group by player
5  having count(distinct item) >=(
6    select count(*)
7    from food
8  );
9
10

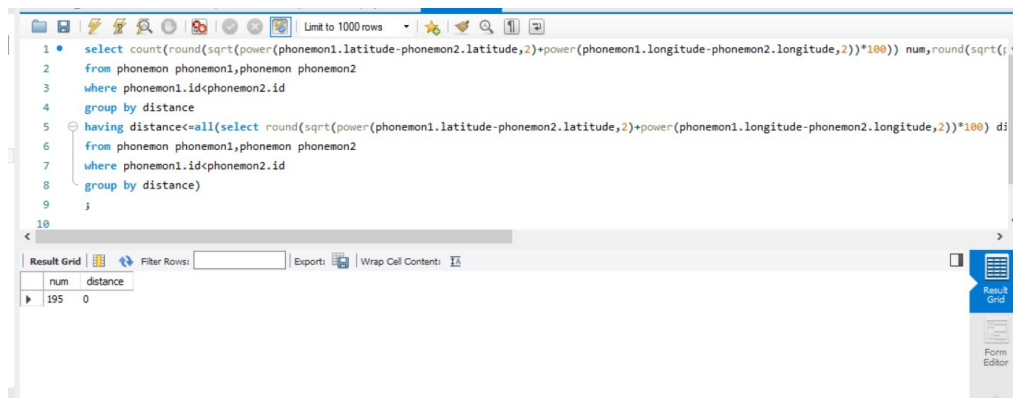
```

player	username	count(distinct item)
20	Zhan	6

9、代码块：

select count(round(sqrt(power(phonemon1.latitude-phonemon2.latitude,2)+power(phonemon1.longitude-phonemon2.longitude,2))*100)) num,round(sqrt(power(phonemon1.latitude-phonemon2.latitude,2)+power(phonemon1.longitude-phonemon2.longitude,2))*100) distance from phonemon phonemon1,phonemon phonemon2 where phonemon1.id<phonemon2.id

group by distance
order by num desc
;



10、
能力不足，无法完成。

三、实验中遇到的困难及解决办法

第七题中，由于不能对聚集函数使用聚集函数，在这道题中具体表现为无法对 sum 函数进行 max 操作。一番思考后，我回忆到之前上课所讲的关于 all 关键字的逻辑操作，最后用 having 操作进行了筛选。
第十题较为复杂，我难以实现

四、参考文献及致谢

感谢周心同同学与我的讨论。我们共同研究了第二题和第九题