# Week 9 Exercises

*Each question comes with the results of the correct query. Use those results to see whether your query is correct. Table headings are not shown.*

**Part 1. Child Care.**

Answer the following questions using the "child_care" database on the database server for exercises 1-6. This database lists 929 child-care centres in Toronto as of September 2010. (This is real data from Toronto's Open Data project.)

*What are the top ten wards by the total number of toddler spaces? (List the ward numbers together with the total number of toddler spaces in each of them.)*

```
select ward, sum(toddler_spaces)
from centres
group by ward
order by sum(toddler_spaces) desc
limit 10;
```

```
+------+--------------------+
|   20 |                402 |
|   28 |                290 |
|   13 |                269 |
|   16 |                205 |
|   27 |                203 |
|    5 |                200 |
|   38 |                200 |
|    8 |                200 |
|   10 |                199 |
|   22 |                197 |
+------+--------------------+
```

*In which wards do toddler spaces available in centres run by commercial agencies account for more than a quarter of all spaces in such centres? List the ward numbers sorted by the ratio of toddler spaces to all spaces in commercial centers, in descending order.*

```
select ward
from centres
where auspice="Commercial Agency"
group by ward
having sum(toddler_spaces) > sum(total_spaces)*.25
order by sum(toddler_spaces) / sum(total_spaces) desc;
```

```
+------+
|   28 |
|   13 |
|   20 |
|   27 |
+------+
```

**Part 2. Diveshop.**

Answer the following questions using the "diveshop" database.

*What is the most visited destination? (If a customer booked multiple trips to the same destination, count all of them separately.)*

```
select Destination_Name
from DEST
join DIVEORDS
  on DIVEORDS.Destination_No = DEST.Destination_No
group by DEST.Destination_No
order by count(*) desc
limit 1;
```

```
+------------------+
| Santa Barbara    |
+------------------+
```

*What cities have more than one customer living in them?*

```
select City, State_Prov, Country
from DIVECUST
group by City, State_Prov, Country
having count(*) > 1;;
```

```
+---------------+------------+---------+
| San Francisco | CA         | U.S.A.  |
+---------------+------------+---------+
```

*What is the most popular payment method for customers living outside California ("CA")?*

```
select DIVEORDS.PaymentMethod
from DIVEORDS
join DIVECUST on DIVECUST.Customer_No=DIVEORDS.Customer_No
where DIVECUST.State_Prov!="CA"
group by DIVEORDS.PaymentMethod
order by count(*) desc
limit 1;
```

```
+---------------+
| Cash          |
+---------------+
```

*What is the average depth for sites at each skill level?*

```
select Skill_Level, avg(Depth_m)
from SITES
group by Skill_Level;
```

```
+--------------+--------------------+
| Advanced     | 31.813499999999994 |
| Beginning    | 14.919157894736841 |
| Intermediate | 26.416000000000007 |
+--------------+--------------------+
```

*Which sites are more than 50% deeper than the average for their skill level? (E.g., if "Beginning" sites are 20 m deep on average, then we are only interested in those "Beginning" sites that are deeper than 30 m. Same for all the other skill levels.)*

```
select Site_Name, Depth_m
from SITES as S1
where Depth_m > 1.5 * (select avg(Depth_m) from SITES as S2
                        where S1.Skill_Level=S2.Skill_Level);
```

| Watanabe     |   45.72 |
| Descanso Bay |  27.432 |
| Mohawk       |  24.384 |