

Worksheet Solutions

Use the Mondial dataset to solve the following problems

1. Return the set of all mountains, i.e., as a single tuple with an attribute containing the collection of all mountains.

```
SELECT x.mondial.mountain FROM world x;
```

2. Return each mountain one by one, i.e., as a collection of tuples that each contain a single mountain. Compare it to Problem 1.

```
SELECT y AS mountain
FROM world x, x.mondial.mountain y;
```

3. Return name, type, and height for each mountain, in descending order of the height.

```
SELECT y.name, y.`-type`, y.height
FROM world x, x.mondial.mountain y
ORDER BY int(y.height) DESC;
```

4. Find mountains located in more than 1 country. Your query should return mountain name and the count.

```
SELECT y.name AS mountainName, count(*) AS numCountries
FROM world x, x.mondial.mountain y, split(y.`-country`, ' ') r
GROUP BY y.name
HAVING count(*) > 1;
```

5. For each country, return the country name and a list of all the mountain names in that country.

```
SELECT y.name AS countryName, m AS mountainList
FROM world x, x.mondial.country y
LET m = ( SELECT z.name AS mountain
          FROM world x2, x2.mondial.mountain z, split(z.`-country`,
' ') r
          WHERE y.`-car_code` = r);
```

6. Return the member types among all organizations, along with the count for how many organizations each type occurs in.

-- Example tuple: { "count": 4, "-type": "nonregional member" }

-- Return one tuple per member type.

```
SELECT count(*) count, m.`-type`
FROM world w, w.mondial.organization o,
CASE WHEN is_array(o.members) THEN o.members
ELSE [o.members] END m
GROUP BY m.`-type`;
```

7. Return each country's code for countries that is a member of some organization, along with the number of organizations that they are members of.

-- Example tuple: { "country_code": "A", "count": 69 }

-- Return one tuple per country.

```
SELECT cc country_code, count(*) count
FROM world w, w.mondial.organization o,
CASE when is_array(o.members) then o.members
else [o.members] end m,
split(m.`-country`,` `) cc
GROUP BY cc;
```

8. Return each country's NAME for countries that is a member of some organization, along with the number of organizations that they are members of.

-- Example tuple: { "country_name": "Austria", "count": 69 }

-- Return one tuple per country.

```
select co.name country_name, count(*) count
from hw4.world w, w.mondial.organization o,
case when is_array(o.members) then o.members
else [o.members] end m,
split(m.`-country`,` `) cc,
w.mondial.country co
where co.`-car_code` = cc
group by cc, co.name;
```