sql quiz solution

quiz 1 - select

(1)
select distinct(Continent)
from country

(2)
select Name, Population
from city
where CountryCode = "KOR" AND Population > 1000000

(3)
select Name, CountryCode, Population
from city
where Population between 8000000 and 10000000
order by Population DESC

(4)
select Code, CONCAT(Name, "(", IndepYear, ")") as NameIndep, Continent, Population
from country
where IndepYear between 1940 and 1950
order by IndepYear

(5)
select CountryCode, Language, Percentage
from countrylanguage
where Percentage > 95 AND Language in ("English", "Korean", "Spanish")
order by Percentage DESC

(6)
select Code, Name, Continent, GovernmentForm, Population
from country
where GovernmentForm like "%Republic%" AND Code like "A%"

quiz 2 - group by & having

(1)
```
select count(distinct(Continent)) as count
from country
```

(2)
```
select Continent, count(Continent) as count
from country
group by Continent
order by count desc
```

(3)
```
select CountryCode, sum(Population) as Population
from city
group by CountryCode
having Population > 50000000
order by Population desc
```

(4)
```
select Language, count(*) as count
from countrylanguage
group by Language
order by count desc
limit 4,6
```

(5)
```
select Language, count(*) as count
from countrylanguage
group by Language
having count >= 15
order by count desc
```

(6)
```
select Continent, sum(SurfaceArea) as SurfaceArea
from country
group by Continent
order by SurfaceArea desc
```

quiz 3 - join & sub query

(1)
```
select Name, Population
from country
where Population > (
        select Population
        from country
        where Name = "Mexico"
)
order by Population desc
```

(2)
```
select country.Name, count(city.Name) as count
from city join country
on city.CountryCode = country.Code
group by country.Name
order by count desc
```

(3)
```
select Language, sum(sub1.count) as count
from (
        select cl.CountryCode ,cl.Language, cl.Percentage, c.Population,
            round(c.Population * cl.Percentage * 0.01) as count
        from country as c right join countrylanguage as cl
        on c.Code = cl.CountryCode
) as sub1
group by Language
having count > 0
order by count desc
```

(4)
```
select city.name, city.countrycode, country.name, ROUND(city.population /
country.population * 100, 2) as percentage
from (select * from city where population > 5000000) as city
join country
where city.countrycode = country.code
having percentage > 10
order by percentage desc
```
```
select city.name, city.countrycode, country.name, ROUND(city.population /
country.population * 100, 2) as percentage
from city
join country
where city.countrycode = country.code and city.population > 5000000
having percentage > 10
order by percentage desc
```

(5)

```
select name, count(language) as language_count
from
(
        select code, name, round(Population / SurfaceArea) as density
        from country
        where SurfaceArea > 10000
        having density > 200
        order by density desc
) as country
join countrylanguage
on countrylanguage.countrycode = country.code
group by name
having language_count > 5
order by language_count desc
```

(6)

```
SELECT city.countrycode, city.name  as city_name, city.population, country.name,
city.language_count, languages
FROM
(
        SELECT city.countrycode, city.name, city.population, cl.language_count,
cl.languages
        from(
                select countrycode, GROUP_CONCAT(LANGUAGE) as languages,
count(LANGUAGE) as language_count
                from countrylanguage
                group by countrycode
                having language_count <= 3
        ) AS cl
        JOIN
        (
                select *
                from city
                where population > 3000000
        ) AS city
        ON city.countrycode = cl.countrycode
) AS city
JOIN country
ON country.code = city.countrycode
ORDER BY population desc
```

using view

```
create view cl as
(
SELECT city.countrycode, city.name, city.population, cl.language_count, cl.languages
        from(
                select countrycode, GROUP_CONCAT(LANGUAGE) as languages,
count(LANGUAGE) as language_count
                from countrylanguage
```

```
        group by countrycode
        having language_count <= 3
) AS cl
JOIN
(
        select *
        from city
        where population > 3000000
) AS city
ON city.countrycode = cl.countrycode
)

SELECT city.countrycode, city.name as city_name, city.population, country.name,
city.language_count, languages
FROM cl AS city
JOIN country
ON country.code = city.countrycode
ORDER BY population desc
```

mongodb

```
var showInfo = function(page, block){
    return db.info.find().skip(block*(page-1)).limit(block);
}
showInfo(2, 2)
```