Sample Assignment on SQL for AP CSP Students
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SOLUTIONS

Who Wants To Be a *Billionaire*? - SQL Edition

You are creating reports for a financial blog for teens. Use the Structured Query Language (SQL) to write queries that retrieve the following records:

A) Topic - SELECT Query
Example: SELECT names FROM billionaires2014
What It Does: This retrieves records for the names fields of billionaires2014.
Now You Try: Write a query that retrieves the names and rank of each billionaire in 1996.
Solution: SELECT name, rank FROM billionaires1996

B) Topic - WHERE Clause
Example: SELECT * FROM billionaires2014 WHERE demographics.age>40
What It Does: This retrieves records for all fields of billionaires2014 where the age is greater than 40.
Now You Try: Write a query that retrieves the name, rank, and age of each billionaire in 1996 whose location is USA.
Solution: SELECT name, rank, age FROM billionaires1996 WHERE location='USA'

C) Topic - ORDER BY
Example: SELECT * FROM billionaires2014 WHERE demographics.age<30 ORDER BY wealth.[worth in billions] DESC
What It Does: This retrieves records from all fields of billionaires2014 where the age is less than 30 ordered by billions descending.
Now You Try: Write a query that retrieves the name, rank, and age of each billionaire in 1996 whose location is North America ordered by billions descending
Solution: SELECT name, rank, age FROM billionaires1996 WHERE location='North America' AND age<30 ORDER BY billions DESC

D) Topic - Aggregate Functions

Example: SELECT location.region, COUNT(*) AS total FROM billionaires2014 GROUP BY location.region

What It Does: This aggregate query groups together all fields of the same value according to the location.region field and indicates the count of each as a total.

Now You Try: Write an aggregate query that groups together all fields of the same value according to the demographics.gender field and indicates the count of each as a total.

Solution: SELECT demographics.gender, COUNT(*) AS total FROM billionaires2014 GROUP BY demographics.gender

E) Topic - Inner Join

Example: SELECT name, b2014.rank b1996.rank FROM billionaires2014 AS b2014 INNER JOIN billionaires1996 AS b1996 ON b1996.name=b2014.name

What It Does: This joins together the two tables on the name field with an inner join, which will include only those records where both tables contain the name.

Now You Try: Write a query that joins the billionaires2014 and billionaires1996 tables on the name field and lists the name and rank of each.

Solution: SELECT name, b2014.rank b1996.rank FROM billionaires2014 AS b2014 INNER JOIN billionaires1996 AS b1996 ON b1996.name=b2014.name