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HW2

1. What makes SQL a nonprocedural language?

SQL determines what should be done, not how it should be done. The database must implement the SQL request. This feature is a big plus in cross-platform, cross-language development.

2. How can you tell whether a database is truly relational?

Apply Dr. Codd’s 12 rules.

3. What can you do with SQL?

SQL enables you to select, insert, modify, and delete the information in a database; perform system security functions and set user permissions on tables and databases; handle online transaction processing within an application; create stored procedures and triggers to reduce application coding; and transfer data between different databases.

4. Name the process that separates data into distinct, unique sets.

Normalization reduces the amount of repetition and complexity of the structure of the previous level.

5. Do the following statements return the same or different output:

SELECT \* FROM ARRESTS; select \* from arrests;

One of these statement is uppercase, the other statements is uppercase.

6. None of the following queries work. Why not?

A. select \* ;

We need type form clause in this statement.

B. Select \* from checks

We need to type a semicolon at the end of this statement.

C. Select amount name payee FROM checks;

We need to type comma between each column name. Select amount, name, payee FROM checks;

7. Which of the following SQL statements will work?

select \* from checks; select \* from checks; select \* from checks /

All of them work.

1. Write a query to return just the check officerId and the topCharge.

SELECT OFFICERID, TOPCHARGE FROM OFFICERID;

2. Rewrite the query from exercise 1 so that the topCharge will appear as the first column in your query results.

SELECT TOPCHARGE, OFFICERID FROM NYSID;

3. Using the arrests table, write a query to return all the unique topCharges.

SELECT DISTINCT TOPCHARGES FROM NYSID;

**1.** Write a query that returns everyone in the database whose last name begins with M.

SELECT \* FROM DOUBLEAGENTS WHERE LASTNAME LIKE 'M%';

2. Write a query that returns everyone who lives in Illinois with a first name of AL.

SELECT \* FROM DOUBLEAGENTS WHERE STATE = 'IL' AND FIRSTNAME = 'AL';

3. What shorthand could you use instead of WHERE a >= 10 AND a <=30?

WHERE a BETWEEN 10 AND 30;

4. What will this query return?

SELECT FIRSTNAME FROM DOUBLE\_AGENTS WHERE FIRSTNAME = 'AL' AND LASTNAME = 'BULHER';

Because no one satisfy these two conditions, nothing will be return.

5. Using the DOUBLEAGENTS table, write a query that returns the following:

SELECT (FIRSTNAME || 'FROM') NAME, STATE

FROM DOUBLEAGENTS

WHERE STATE = 'IL'

AND LASTNAME = 'BUNDY';

1. Using the DOUBLEAGENTS table, write a query that returns the following:

SELECT LASTNAME || ',' || FIRSTNAME NAME,

AREACODE || '-' || PHONE PHONE

FROM DOUBLEAGENTS

WHERE AREACODE BETWEEN 300 AND 400;

1. Which function capitalizes the first letter of a character string and makes the rest lowercase?

INITCAP

2. Which functions are also known by the *same* name?

Group functions and aggregate functions

3. Will this query work?

SELECT COUNT(LASTNAME) FROM CHARACTERS;

Yes.

4. How about this one?

SELECT SUM(LASTNAME) FROM CHARACTERS ;

No, the LASTNAME is not number.

5. Assuming that they are separate columns, which function(s) would splice together FIRSTNAME and LASTNAME?

CONCAT function and | |

6. What does the answer 37 mean from the following SELECT?

SELECT COUNT(\*) FROM drone\_strikes;

7. Will the following statement work? (Hint: look up substr)

SELECT SUBSTR LASTNAME,1,5 FROM NAME\_TBL;

No, because we need a parentheses beside LASTNAME,1,5

1. Using a table called SHOOTSTATS table, write a query to determine who is are on target less than .25.

SELECT NAME FROM SHOOTSTATS

WHERE (HITS/AB) < .25;

2. Using today's OFFICERS table, write a query that will return the following

select substr(firstname,1,1)||'.'||
substr(middlename,1,1)||'.'||
substr(lastname,1,1)||'.' INITIALS, code
from characters
where code = 32;

1. Which clause works just like LIKE(%)? (HINT: Look it up on google.)

STARTING WITH

2.What is the function of the GROUP BY clause, and what other clause does it act like?

The GROUP BY clause groups data result sets that have been manipulated by various functions. The GROUP BY clause acts like the ORDER BY clause in that it orders the results of the query in the order the columns are listed in the GROUP BY.

3.Will this SELECT work?

NAME, AVG(SALARY), DEPARTMENT FROM PAY\_TBL WHERE DEPARTMENT = 'SWAT' ORDER BY NAME GROUP BY DEPARTMENT, SALARY;

No, the syntax is incorrect.

4.when using the HAVING clause, do you always have to use a GROUP BY also?

Yes.

5.Can you use ORDER BY on a column that is not one of the columns in the SELECT statement?

Yes.

6.Using the ORGCHART table from the following examples, find out how many people on each team have 30 or more days of sick leave.

The output shows the number of people on each team with a SICKLEAVE balance of 30 days or more.