

Hands-on Lab: Relational Model Concepts

Estimated time needed: 10 minutes

In this module, you have learned the concepts of a relational model, including entity, attribute, relation, degree, and cardinality.

Now, in this lab, let's apply the concepts learned in this module to a real-world example of a database.

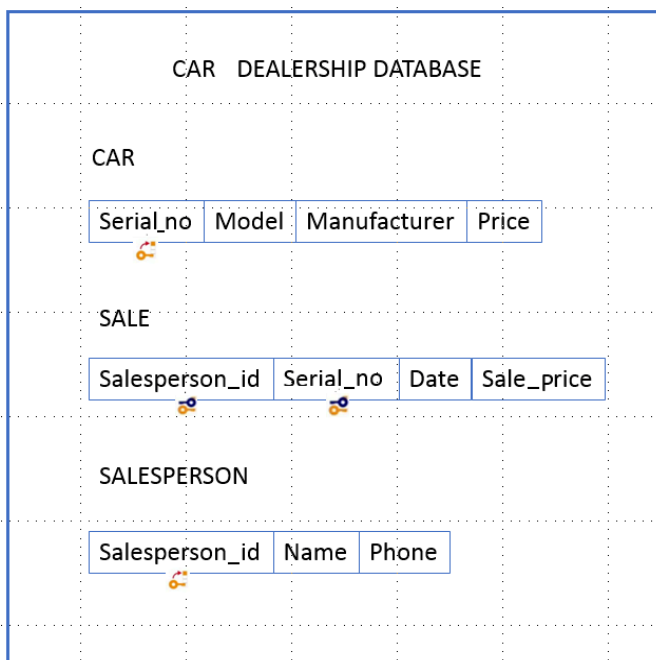
Objectives

After completing this lab, you will evaluate your knowledge of relational model concepts.

Exercise

In this exercise, you will work on a relational database schema called Car Dealership, which someone designed to track automobile sales in a car dealership.

Schema diagram for the Car Dealership relational database:



Relational instance of SALE:

| Salesperson_id | Serial_no | Date | Sale_price |
|----------------|-----------|------------|--------------|
| 10001 | 1we4ds87 | 12/03/2020 | \$ 10,000.00 |
| 10005 | d63jw3ty | 12/03/2020 | \$ 5,000.00 |
| 10009 | sy63bjd1 | 13/03/2020 | \$ 25,000.00 |
| 10001 | k2k4edr8 | 13/03/2020 | \$ 49,000.00 |
| 10051 | w3r334ac | 13/03/2020 | \$ 8,000.00 |

Now let us go through some questions based on the database schema of Car Dealership and relational instance of SALE:

1. How many relations does the Car Dealership database schema contain?

▼ Hint

A relation is also the mathematical term for a table.

▼ Answer

Three. The Car Dealership database schema contains three relations or tables: CAR, SALE, and SALESPERSON.

2. How many columns does the relation Car contain?

▼ Hint

A relation is also the mathematical term for a table. A table is a combination of rows and columns. The columns are the attributes or fields.

▼ Answer

Four. The relation Car contains four columns: Serial No, Model, Manufacturer, and Price.

3. How many rows does the relation Sale contain?

▼ Hint

A relation is also the mathematical term for a table. A table is a combination of rows and columns. The rows are the tuples.

▼ Answer

Five

4. What is the degree of the relation Salesperson?

▼ Hint

Degree refers to the number of attributes or columns in a relation.

▼ Answer

Three

5. Identify the cardinality of the relation Sale.

▼ Hint

Cardinality refers to the number of tuples, or rows, in a relation.

▼ Answer

Five

6. Identify the attributes of the relation Salesperson.

▼ Hint

A relational schema specifies each column's relation name and type, which are the attributes.

▼ Answer

Salesperson_id, Name, Phone

Congratulations! You have completed this lab and are ready for the next topic

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