Questions

1. Write differences between Data and Information
2. Give examples of primary key and composite primary key and foreign key
3. Describe database relation with proper examples
4. Design a database model for online pizzashop using ERD

Answers

1. Differences between Data and Information:

|  |  |
| --- | --- |
| **Data** | **Information** |
| Data refers to unorganized and raw facts or figures that lack any specific meaning | Information is the result of processing and organizing data into a meaningful context |
| Data doesn’t depend on information | Information depends on data |
| Raw data alone is insufficient for decision making | Information is sufficient for decision making |
| Data serves as the foundation for generating information. It is the starting point for analysis and interpretation. | Information serves the purpose of conveying knowledge and insights that can be used for decision making. |
| An example of data is a student’s test score | The average score of a class is the information derived from the given data. |

1. Examples of primary key and composite primary key and foreign key:

**Primary Key:** A primary key is a unique identifier for a specific record in a database table.

**Example:** Consider a table called "Employees" with the following columns:

* EmployeeID (Primary Key)
* Name
* Age
* Department

In this case, the "EmployeeID" column can be designated as the primary key, ensuring that each employee in the table has a unique identifier.

**Composite Primary Key:** A composite primary key consists of two or more columns that, together, uniquely identify a record in a table.

**Example:** Let's say we have a table called "Orders" with the following columns:

* OrderID
* ProductID
* CustomerID
* Quantity

In this case, the combination of "OrderID," "ProductID," and "CustomerID" can form a composite primary key. It means that a unique order can be identified by the combination of these three columns.

**Foreign Key:** A foreign key is a column or set of columns in a table that refers to the primary key of another table. It establishes a relationship between two tables.

**Example:** Consider two tables, "Orders" and "Customers." The "Orders" table has a foreign key referencing the primary key in the "Customers" table.

Table: Customers

* CustomerID (Primary Key)
* Name
* Email

Table: Orders

* OrderID (Primary Key)
* CustomerID (Foreign Key)
* Product
* Quantity

In this case, the "CustomerID" column in the "Orders" table is a foreign key that refers to the primary key "CustomerID" in the "Customers" table. It establishes a relationship between the two tables, allowing you to link orders to specific customers.

1. Database relation with proper example: