**What is a database?**

A database is a data structure that stores organized information. Most databases contain multiple tables, which may each include several different fields. For example, a company database may include tables for products, employees, and financial records.

**What is a Table?**

Table is composed of records and fields that hold data. Tables are also called datasheets. Each table in a database holds data about a different, but related, subject.

**What is a coliumn?**

The columns in a table are the set of facts that we keep track of about that type of object. A column is also called an attribute.

**What is a Row?**

A row is called a record or tuple. it is representing the a single, implicitly structured data item in a table.

a row is the set of [field](http://searchoracle.techtarget.com/definition/field)s within a [table](http://searchsoa.techtarget.com/definition/table) that are relevant to a specific [entity](http://whatis.techtarget.com/definition/entity). For example, in a table called customer contact information, a row would likely contain fields such as: ID, name, street address, city, telephone number and so on.

**example of inner join**

**SELECT** suppliers.supplier\_id, suppliers.supplier\_name, order1.order\_number

**FROM** suppliers

**INNER** JOIN order1

**ON** suppliers.supplier\_id = order1.supplier\_id;

Example of primary key?

Each row of the data in a table uniquely identified by a Primary Key  
The column (columns) that has completely unique data throughout the table is known as the primary key field.

Student table

|  |  |  |
| --- | --- | --- |
| Stu\_ID | Stu\_Name | Stu\_Age |
| 101 | Deepthi | 23 |
| 102 | Chandu | 24 |
| 103 | Naveena | 26 |
| 104 | Divya | 22 |

**Example of foreign key?**

CREATE TABLE Orders  
(  
O\_Id int NOT NULL,  
OrderNo int NOT NULL,  
P\_Id int,  
PRIMARY KEY (O\_Id),  
CONSTRAINT fk\_PerOrders FOREIGN KEY (P\_Id)  
REFERENCES Persons(P\_Id)  
)

**Example of Group By?**

SELECT Shippers.ShipperName, Employees.LastName,  
COUNT(Orders.OrderID) AS NumberOfOrders  
FROM ((Orders  
INNER JOIN Shippers  
ON Orders.ShipperID=Shippers.ShipperID)  
INNER JOIN Employees  
ON Orders.EmployeeID=Employees.EmployeeID)  
GROUP BY ShipperName,LastName;

**Example of Having Clause?**

SELECT column\_name, aggregate\_function(column\_name)  
FROM table\_name  
WHERE column\_name operator value  
GROUP BY column\_name  
HAVING aggregate\_function(column\_name) operator value;

**Example of Left Outer Join?**

SELECT OrderNumber, TotalAmount, FirstName, LastName, City, Country

FROM Customer C LEFT JOIN [Order] O

ON O.CustomerId = C.Id

ORDER BY TotalAmount

**Example of Right Outer Join?**

SELECT column-names

FROM table-name1 RIGHT OUTER JOIN table-name2

ON column-name1 = column-name2

WHERE condition

**Example of Where Condition?**

SELECT \* FROM Customers  
WHERE Country='Mexico';

**Finding second highest salary from row table**

SELECT Name FROM Employees WHERE Salary =

( SELECT DISTINCT TOP (1) Salary FROM Employees WHERE Salary NOT IN

(SELECT DISTINCT TOP (1) Salary FROM Employees ORDER BY Salary DESCENDING)

ORDER BY Salary DESCENDING)