1Q) What is database?

A database is collection of information so that it can easily access the data, manage and updated. it can be classifying in to different types like bibliography, full-test, numeric and images

2Q) What is table?

Table consist of columns and rows. In relational databases a table is set of data elements and vertical columns and horizontal rows.

3Q) What is column?

In database, a column is a set of values one for each row of the table.

4Q) What is row?

In a database, a row is set of fields within a table that are relevant to a specify entity.

5Q) Example of inner joins?

The INNER JOIN keyword selects all rows from both tables as long as there is a match between the columns. If there are rows in the "Customers" table that do not have matches in "Orders", these customers will NOT be listed.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Customer id | Customer Name | County name | Address | City | Postal code | Country |
| 001 | Hamish | Callaway | Ober street | vertigo | 54995 | Mexico |
| 002 | FAREN | SADER | Green Blvd. | Raton | 65008 | Germany |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Order Id | Customer Id | Employee Id | Order Date | Shipper Id |
| 1708 | 1 | 76 | 02-22-2003 | 9 |
| 1489 | 2 | 56 | 04-13-2003 | 5 |

SELECT Customers.CustomerName, Orders.Order Id  
FROM Customers  
INNER JOIN Orders  
ON Customers.CustomerID=Orders.Customer Id   
ORDER BY Customers.CustomerName;

6Q) Example for outer join?

Left join will return every row in the table if it does not match also it displays.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Customer id | Customer Name | County name | Address | City | Postal code | Country |
| 001 | Hamish | Callaway | Ober street | vertigo | 54995 | Mexico |
| 002 | FAREN | SADER | Green Blvd. | Raton | 65008 | Germany |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Order Id | Customer Id | Employee Id | Order Date | Shipper Id |
| 1708 | 1 | 76 | 02-22-2003 | 9 |
| 1489 | 2 | 56 | 04-13-2003 | 5 |

SELECT Customers.CustomerName, Orders.OrderID  
FROM Customers  
LEFT JOIN Orders  
ON Customers.CustomerID=Orders.CustomerID  
ORDER BY Customers.CustomerName;

Q) Example for Right outer join?

Customer table:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Customer id | Customer Name | County name | Address | City | Postal code | Country |
| 001 | Hamish | Callaway | Ober street | vertigo | 54995 | Mexico |
| 002 | FAREN | SADER | Green Blvd. | Raton | 65008 | Germany |

Order table:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Order Id | Customer Id | Employee Id | Order Date | Shipper Id |
| 1708 | 1 | 76 | 02-22-2003 | 9 |
| 1489 | 2 | 56 | 04-13-2003 | 5 |

SELECT SUM FROM Orders

WHERE Order Date between ’02-1-2003’ AND ’04-31-2003’.

SELECT AVG FROM Orders

WHERE Order Date between ’02-1-2003’ AND ‘’04-31-2013’.

SELECT MAX FROM Order

Q) Example for GROUP BY?

Here is a table of employees with their address and salaries.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ID | NAME | AGE | ADDRESS | SALARY |
| 1 | SHEETAL | 24 | HYDERABAD | 25,000 |
| 2 | REANE | 25 | DELHI | 22000 |
| 3 | JIYA | 30 | BOMBAY | 19000 |
| 4 | RAMYA | 23 | HYDERABAD | 35000 |

Now total amount of salary on each customer then GROUP BY query would be as follows.

|  |  |
| --- | --- |
| SHEETAL | 25,000 |
| REANE | 22000 |
| JIYA | 19000 |
| RAMYA | 35000 |

Q: EXAMPLE FOR HAVING CLAUSE?

Order table:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Order Id | Customer Id | Employee Id | Order Date | Shipper Id |
| 1708 | 1 | 76 | 02-22-2003 | 9 |
| 1489 | 2 | 56 | 04-13-2003 | 5 |

Employee table:

|  |  |  |  |
| --- | --- | --- | --- |
| Employee Id | Last Name | First Name | Date of birth |
| 1 | Dagubatti | Zeera | 02-08-1986 |
| 2 | Sheela | Riya | 04-03-1988 |

SELECT Employees.LastName, COUNT(Orders.OrderID) AS NumberOfOrders FROM (Orders  
INNER JOIN Employees  
ON Orders.EmployeeID=Employees.EmployeeID)  
GROUP BY LastName  
HAVING COUNT(Orders.OrderID) > 10;

Q: Example for WHERE condition?

Customer Table:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Customer id | Customer Name | County name | Address | City | Postal code | Country |
| 001 | Hamish | Callaway | Ober street | vertigo | 54995 | Mexico |
| 002 | FAREN | SADER | Green Blvd. | Raton | 65008 | Germany |

SELECT \* FROM Customers  
WHERE Country='Germany'  
AND City='Berlin';

Q) Example for PRIMARY KEY?

CREATE TABLE Persons  
(  
P\_Id int NOT NULL,  
LastName varchar(255) NOT NULL,  
FirstName varchar(255),  
Address varchar(255),  
City varchar(255),  
PRIMARY KEY (P\_Id)  
)

Q) Example for Foreign Key?

|  |  |  |  |
| --- | --- | --- | --- |
| P\_Id | Last Name | First Name | City |
| 1 | Dagubatti | Zeera | Sanderson |
| 2 | Sheela | Riya | Stavanger |

ORDER TABLE:

|  |  |  |
| --- | --- | --- |
| O\_Id | Order No | P\_Id |
| 1678 | 14 | 1 |
| 1564 | 12 | 2 |

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

Q) Finding second highest salary from row table?

EMPLOYEE:

|  |  |
| --- | --- |
| EMPLOYEE ID | SALARY |
| 1 | 2400 |
| 2 | 3400 |
| 3 | 5000 |
| 4 | 4800 |

Select max(salary) as max\_salary, 2nd\_max\_salary.