1.What is Database?

A. Database is a collection of information that is organized so that it can easily can accessed, managed and updated.

2. What is column?

A. A column is a set of data values of a particular simple type, one for each row of the table.

3. What is row?

A. A  row is also called a record or tuple represents a single, implicitly structured data item in a table.

4. Inner join?

A. The INNER JOIN keyword selects all rows from both tables as long as there is a match between the columns in both tables.

EX: SELECT column\_name(s)  
FROM table1  
INNER JOIN table2  
ON table1.column\_name=table2.column\_name;

5.Left outer join?

A. The LEFT JOIN keyword returns all rows from the left table (table1), with the matching rows in the right table (table2). The result is NULL in the right side when there is no match.

Ex: SELECT column\_name(s)  
FROM table1  
LEFT JOIN table2  
ON table1.column\_name=table2.column\_name;

6. Right outer join?

A. The RIGHT JOIN keyword returns all rows from the right table (table2), with the matching rows in the left table (table1). The result is NULL in the left side when there is no match.

Ex: SELECT column\_name(s)  
FROM table1  
RIGHT JOIN table2  
ON table1.column\_name=table2.column\_name;

7. Example for Max, sum, Avg?

A. The MAX function returns the maximum value in the specified column. The MAX function can also be used as the part of sub-query.

SELECT MAX(OrderQty) FROM Purchasing.PurchaseOrderDetail

SELECT \* FROM Purchasing.PurchaseOrderDetail WHERE OrderQty =

(SELECT MAX(OrderQty) FROM Purchasing.PurchaseOrderDetail)

The SUM function adds up the values in a specified column. The column must be of one of **numeric** data types. The DISTINCT can be used to get the sum of only unique values.

SELECT SUM(OrderQty) FROM Purchasing.PurchaseOrderDetail

SELECT SUM(DISTINCT(OrderQty)) FROM Purchasing.PurchaseOrderDetail

The AVG function returns the average of all the values in the specified column. As with SUM function, the column must be of one of **numeric** data types. The DISTINCT can be used to get the average of only unique values

SELECT AVG(OrderQty) FROM Purchasing.PurchaseOrderDetail

SELECT AVG(DISTINCT(OrderQty)) FROM Purchasing.PurchaseOrderDetail

8. Example for groupby

A.The GROUP BY statement is used in conjunction with the aggregate functions to group the result-set by one or more columns

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

9. Example for having

A.The HAVING clause was added to SQL because the WHERE keyword could not be used with aggregate functions.

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;

10. Example for primary key

A. A primary key’s main features are:

* It must contain a unique value for each row of data.
* It cannot contain null values.

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)  
)

11. Example for foreign key?

1. CREATE TABLE ORDERS

(Order\_ID integer,

Order\_Date date,

Customer\_SID integer,

Amount double,

Primary Key (Order\_ID),

Foreign Key (Customer\_SID) REFERENCES CUSTOMER(SID));