



Multiple Choice Questions

10x1=10

- The operation whose result contains all pairs of tuples from the two relations, regardless of whether their attribute values match.
(a) Join
(b) Cartesian product
(c) Intersection
(d) Set difference
- Consider the following query
`SELECT name FROM student WHERE subject = 'Physics' ORDER BY name;`
The above query will lists result in _____ order of _____
(a) Descending, subject
(b) Ascending, subject
(c) Descending, name
(d) Ascending, name
- Consider the following query
`SELECT * FROM employee ORDER BY salary _____, name _____;`
To display the *salary* from greater to smaller and *name* in alphabetical order which of the following options should be used ?
(a) Ascending, Descending
(b) Asc, Desc
(c) Desc, Asc
(d) Descending, Ascending
- Which of the following is not an aggregate function ?
(a) Avg
(b) Sum
(c) With
(d) Min
- All aggregate functions except _____ ignore null values in their input collection.
(a) Count(attribute)
(b) Count(*)
(c) Avg
(d) Sum
- Which of the following is a SQL aggregate function ?
(a) LEFT
(b) AVG
(c) JOIN
(d) LEN
- Which of the following group functions ignore NULL values ?
(a) MAX
(b) COUNT
(c) SUM
(d) All of the above
- The HAVING clause does which of the following ?
(a) Acts EXACTLY like a WHERE clause.
(b) Acts like a WHERE clause but is used for columns rather than groups.
(c) Acts like a WHERE clause but is used for groups rather than rows.
(d) Acts like a WHERE clause but is used for rows rather than columns.
- Aggregate functions can be used in the select list or the _____ clause of a select statement They cannot be used in a _____ clause.
(a) Where, having
(b) Having, where
(c) Group by, having
(d) Group by, where
- SQL applies conditions on the groups through _____ clause after groups have been formed,
(a) Group by
(b) With
(c) Where
(d) Having

Fill in the Blanks

10x1=10

1. To sort the rows of the result table, the _____ clause is specified.
2. Columns can be sorted in descending sequence by using the SQL keyword _____.
3. When two conditions must both be true for the rows to be selected, the conditions are separated by the SQL keyword _____.
4. To refer to a set of values needed for a condition, we can use the SQL operator _____.
5. To exclude one or more values (a list of values) using a condition, the SQL keyword _____ should be used.
6. The SQL keyword _____ is used in SQL expressions to select based on patterns.
7. The SQL built-in function _____ totals values in numeric columns.
8. The SQL built-in function _____ computes the average of values in numeric columns.
9. The SQL built-in function _____ obtains the largest value in a numeric column.
10. The SQL built-in function _____ obtains the smallest value in a numeric column.

Answer the following Questions

10x2=20

1. What are different types of SQL functions?
2. Write a query to display the Sum, Average, Highest and Lowest salary of the employees.
3. What is the significance of GROUP BY clause in a SQL query?
4. Write a query to display the Sum, Average, Highest and Lowest salary of the employees grouped by department number.
5. Write a query to display the number of employees with same job.
6. What is the use of ORDER BY clause?
7. Write an example query that sorts on three columns.
8. Which clause is used to sort the records of a table?
9. What are aggregate functions? What is their use? Give some example.
10. Define: Single and Multi Row Function.

Application Based Questions

1.

3x1=3

Write a output for SQL queries (i) to (iii), which are based on the table : STUDENT given below :

Table : STUDENT

RollNo	Name	Class	DOB	Gender	City	Marks
1	Nanda	X	06-06-1995	M	Agra	551
2	Saurabh	XII	07-05-1993	M	Mumbai	462
3	Sanal	XI	06-05-1994	F	Delhi	400
4	Trisla	XII	08-08-1995	F	Mumbai	450
5	Stort	XII	08-10-1995	M	Delhi	369
6	Marisla	XI	12-12-1994	F	Dubai	250
7	Neha	X	08-12-1995	F	Moscow	377
8	Nishant	X	12-06-1995	M	Moscow	489

(i) SELECT COUNT(*), City FROM STUDENT GROUP BY CITY HAVING COUNT(*) > 1 ;

(ii) SELECT MAX(DOB), MIN(DOB) FROM STUDENT ;

(iii) SELECT NAME, GENDER FROM STUDENT WHERE CITY = "Delhi" ;

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2.

4x1=4

Write SQL queries for (i) to (iv), which are based on the table : STUDENT given in the question 4(g) :

- (i) To display the records from table student in alphabetical order as per the name of the student.
- (ii) To display Class, Dob and City whose marks is between 450 and 551.
- (iii) To display Name, Class and total number of students who have secured more than 450 marks, class wise.
- (iv) To increase marks of all students by 20 whose class is "XII".

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3.

3x1=3

Given the following table :

Table : STUDENT

No.	Name	Stipend	Stream	AvgMark	Grade	Class
1	Karan	400.00	Medical	78.5	B	12B
2	Divakar	450.00	Commerce	89.2	A	11C
3	Divya	300.00	Commerce	68.6	C	12C
4	Arun	350.00	Humanities	73.1	B	12C
5	Sabina	500.00	Nonmedical	90.6	A	11A
6	John	400.00	Medical	75.4	B	12B
7	Robert	250.00	Humanities	64.4	C	11A
8	Rubina	450.00	Nonmedical	88.5	A	12A
9	Vikas	500.00	Nonmedical	92.0	A	12A
10	Mohan	300.00	Commerce	67.5	C	12C

Give the output of following SQL statements :

- (i) SELECT MIN(AvgMark) FROM STUDENT WHERE AvgMark < 75 ;
- (ii) SELECT SUM(Stipend) FROM Student WHERE Grade = 'B' ;
- (iii) SELECT AVG(Stipend) FROM Student WHERE Class = '12A' ;