

Solved and unsolved questions for you.

**OBJECTIVE TYPE QUESTIONS**

1. Fill in the blanks.

- (a) The ..... function works with data of multiple rows at a time and returns aggregated value.
- (b) The ..... clause lets you arrange the result set in the order of single column, multiple columns and custom sort order too.
- (c) To specify filtering condition for groups, the ..... clause is used in MYSQL.
- (d) By default, the ORDER BY clause sorts the result set in the ..... order.
- (e) To sort the result set in descending order, ..... keyword is used with ORDER BY.
- (f) Two types of MYSQL functions are single row function and ..... function.
- (g) The ..... function returns the total number of rows, including duplicates and NULL in a table.
- (h) Group functions are also known as ..... functions.
- (i) In MYSQL, ..... option causes a group function to consider only unique values of the argument expression.
- (j) The ..... function returns the lowest value from the given column or expression.

- Answers: (a) group/row (b) Order by (c) Having  
(d) ascending (e) DESC (f) multiple row  
(g) count(\*) (h) aggregate (i) distinct  
(j) MIN()

2. State whether the following statements are True or False.

- (a) The ORDER BY clause combines all those records that have identical values in a particular field or a group of fields.
- (b) The WHERE clause is used to specify filtering conditions for groups.
- (c) DISTINCT option causes a group function to consider only the unique values of the argument expression.
- (d) By default, ORDER BY clause sorts the result set in descending order.
- (e) COUNT( ) function ignores duplicate and null values while counting the records.
- (f) The return value of MAX( ) function is a numeric value.
- (g) Multiple row function is also known as scalar function.
- (h) SUM( ) function is used to count the total number of records in a table.
- (i) Argument type of AVG( ) function can be numeric or string data type.
- (j) Group functions can be applied to any numeric values, some text types and DATE values.

- Answers: (a) False (b) False (c) True (d) False (e) True (f) True  
(g) False (h) False (i) False (j) True

3. Multiple Choice Questions (MCQs)

- (a) What will be the order of the data being sorted after the execution of given SQL query?

SELECT \*FROM STUDENT ORDER BY ROLL\_NO;

- (i) Custom Sort (ii) Descending
- (iii) Ascending (iv) None of the above

- (b) Which values will not be considered by SQL while executing the following statement?

SELECT COUNT( ) FROM DEPARTMENT;

- (i) Numeric value (ii) Text value (iii) Null value (iv) Date value

- (c) Which of the following clauses is used to sort the result set?

(Do not worry for the sequence of questions. Few are not included)

- (d) Which clause is used in query to place the condition on groups in MYSQL?  
 (i) Where (ii) Having (iii) Group By (iv) Both a & b
- (e) If column "Marks" contains the data set{25, 35, 25, 35, 38}, what will be the output after the execution of the given query?  
 SELECT MARKS(DISTINCT) FROM STUDENTS;  
 (i) 25,35,25,35,38 (ii) 25,25,35,35,38 (iii) 25,35,38 (iv) 25,25,35,35
- (f) If column "Salary" contains the data set{10000,15000,25000,10000,15000}, what will be the output after the execution of the given query?  
 SELECT SUM(DISTINCT SALARY) FROM EMPLOYEE;  
 (i) 75000 (ii) 25000 (iii) 10000 (iv) 50000
- (g) What SQL statement do we use to display the record of all students whose last name contains 5 letters ending with "A"?  
 (i) SELECT \* FROM STUDENTS WHERE LNAME LIKE '\_\_\_\_A';  
 (ii) SELECT \* FROM STUDENTS WHERE LNAME LIKE '\_\_\_\_\_';  
 (iii) SELECT \* FROM STUDENTS WHERE LNAME LIKE '????A';  
 (iv) SELECT \* FROM STUDENTS WHERE LNAME LIKE '\*A';
- (h) What SQL statement do we use to find the total number of records present in the table Product?  
 (i) SELECT \* FROM PRODUCT; (ii) SELECT COUNT(\*) FROM PRODUCT;  
 (iii) SELECT FIND(\*) FROM PRODUCT; (iv) SELECT SUM() FROM PRODUCT;
- (i) Which of the following functions is not an aggregate function?  
 (i) Round( ) (ii) Sum( ) (iii) Count ( ) (iv) Avg ( )
- (j) Which of the following functions is used to FIND the largest value from the given data in MYSQL?  
 (i) MAX( ) (ii) MAXIMUM( ) (iii) LARGEST( ) (iv) BIG( )
- Answers:** (a) (iii) (b) (iii) (c) (iv) (d) (ii) (e) (iii) (f) (iv)  
 (g) (i) (h) (ii) (i) (i) (j) (i)

## SOLVED QUESTIONS

- What is SQL?  
**Ans.** SQL stands for Structured Query Language. This language is used to create, manage table and manipulate stored records in a table.
- What is null value in MySql?  
**Ans.** If a column in a row has no value, then the column is said to be null.
- Which keyword eliminates redundant data from a query result?  
**Ans.** DISTINCT
- Differentiate between WHERE and HAVING clause.  
**Ans.** Where clause is used to select particular rows that satisfy condition whereas having clause is used in connection with the aggregate function, GROUP BY clause. For example, select \* from Student where marks>75; this statement shall display the records for all the students who have scored more than 75 marks.  
 On the contrary, the statement – select \* from Student group by stream having marks>75; shall display the records of all the students grouped together on the basis of stream but only for those students who have scored marks more than 75.
- Why is it not allowed to give String and Date type arguments for SUM() and AVG() functions?  
**Ans.** String and dates are not real numbers that we calculate, so sum() or avg() functions are not valid for them.
- How are NULL values treated by aggregate functions? [HOTS]  
**Ans.** None of the aggregate functions takes NULL into consideration. NULL is simply ignored by all the aggregate functions.
- There is a column C1 in a table T1. The following two statements: SELECT COUNT(\*) FROM T1; and SELECT COUNT(C1) from T1; are giving different outputs. What may be the possible reason? [HOTS]  
**Ans.** There may be a null value.

8. What is the purpose of GROUP BY clause?

**Ans.** GROUP BY clause is used in a SELECT statement in combination with aggregate functions to group the result based on distinct values in a column.

9. What is HAVING clause?

**Ans.** HAVING clause is used in combination with GROUP BY clause in a SELECT statement to put condition on groups.

10. Consider a database LOANS with the following table:

**Table: LOANS**

AccNo	Cust_Name	Loan_Amount	Instalments	Int_Rate	Start_Date	Interest
1	R.K. Gupta	300000	36	12.00	19-07-2009	1200
2	S.P. Sharma	500000	48	10.00	22-03-2008	1800
3	K.P. Jain	300000	36	NULL	08-03-2007	1600
4	M.P. Yadav	800000	60	10.00	06-12-2008	2250
5	S.P. Sinha	200000	36	12.50	03-01-2010	4500
6	P. Sharma	700000	60	12.50	05-06-2008	3500
7	K.S. Dhall	500000	48	NULL	05-03-2008	3800

Answer the following questions.

1. Display the sum of all Loan Amount whose Interest rate is greater than 10.

**Ans.** Mysql> Select sum(Loan\_Amount) from LOANS Where Interest >10;

2. Display the Maximum Interest from Loans table.

**Ans.** Mysql> Select Max(Interest) from LOANS;

3. Display the count of all loan holders whose name ends with 'Sharma'.

**Ans.** Mysql> Select Count(\*) from LOANS Where Cust\_Name Like '%Sharma';

4. Display the count of all loan holders whose Interest is Null.

**Ans.** Mysql> Select Count(\*) from LOANS Where Interest is NULL;

5. Display the Interest-wise details of Loan Account Holders.

**Ans.** Mysql> Select \* from LOANS Group By Interest;

6. Display the Interest-wise details of Loan Account Holders with at least 10 instalments remaining.

**Ans.** Mysql> Select \* from LOANS Group By Interest Having Instalment >=10;

7. Display the Interest-wise count of all loan holders whose Instalment due is more than 5 in each group.

**Ans.** Mysql> Select Count (\*) from LOANS Group By Interest Having Instalment >5;

11. Name two Aggregate (Group) functions of SQL.

[CBSE D 2016]

**Ans.** Count()

Max()

12. Consider the table:

[CBSE D 2016]

**Table: Company**

SID	SALES
S101	20000
S103	NULL
S104	10000
2015	15000

What output will be displayed by the following SQL statement?

SELECT AVG(SALES) from company;

**Ans.** 15000

- Consider the following tables ACTIVITY and COACH. Write SQL commands for the statements (i) to (iv) and give outputs for SQL queries (v) to (viii)

**Table: ACTIVITY**

ACode	ActivityName	ParticipantsNum	PrizeMoney	ScheduleDate
1001	Relay 100x4	16	10000	23-Jan-2004
1002	High Jump	10	12000	12-Dec-2003
1003	Shot Put	12	8000	14-Feb-2004
1005	Long Jump	12	9000	01-Jan-2004
1008	Discuss Throw	10	15000	19-Mar-2004

**Table: COACH**

PCode	Name	ACode
1	Ahmad Hussain	1001
2	Ravinder	1008
3	Janila	1001
4	Naaz	1003

- (i) To display the name of all activities with their ACodes in descending order.
- (ii) To display sum of PrizeMoney for each of the Number of participants groupings (as shown in column ParticipantsNum 10,12,16)
- (iii) To display the coach's name and ACodes in ascending order of ACode from the table COACH.
- (iv) To display the content of the GAMES table whose ScheduleDate earlier than 01/01/2004 in ascending order of ParticipantNum.
- (v) SELECT COUNT(DISTINCT ParticipantsNum) FROM ACTIVITY;
- (vi) SELECT MAX(ScheduleDate),MIN(ScheduleDate) FROM ACTIVITY;
- (vii) SELECT SUM (PrizeMoney) FROM ACTIVITY;
- (viii) SELECT DISTINCT ParticipantNum FROM COACH;

1. Consider the table "Item" given below and give the outputs on the basis of it:

Table: Item

Itemno	Iname	Price (₹)	Quantity
101	Soap	50	100
102	Powder	100	50
103	Facecream	150	25
104	Pen	50	200
105	Soapbox	20	100

- select sum(price) from item;
  - select avg(price) from item;
  - select min(price) from item;
  - select max(price) from item;
  - select count(price) from item;
  - select distinct price from item;
  - select count(distinct price) from item;
  - select iname, price\*quantity from item;
- What are single row and multiple row functions?
  - What is the significance of GROUP BY clause in an SQL query?
  - What is the difference between Where and Having clause in SQL select command?
  - Write a query to find out Sum, Average, lowest and highest marks in Student table.
  - Write a query to find out Sum, Average, lowest and highest marks of the students in STUDENT table grouped by STREAM.
  - Write a query to find out the number of students in each Stream in STUDENT table.
  - Consider the given table Faculty and answer the questions that follow:

F_ID	F Name	L Name	Hire date	Salary
102	Amit	Mishra	12-10-1998	10000
103	Nitin	Vyas	24-12-1994	8000
104	Rakshit	Soni	18-5-2001	14000
105	Rashmi	Malhotra	11-9-2004	11000
106	Sulekha	Srivastava	5-6-2006	10000

- To display the details of those Faculties whose salary is higher than 12000.
- To display the details of Faculties whose salary is in the range of 8000 to 12000 (both values included).
- Count no. of different id from faculty.
- Count no. of faculty members getting salary as 10000.
- Display details of those faculty members whose names start with S.
- Display all records in descending order of Hire date.
- Find the maximum and the minimum salary.