SQL Interview Questions For Software Testers

Software testing - Questions and Answers - SQL Interview Questions

1. Q. What does SQL stand for?
   A. Structured Query Language

2. Q. How do you select all records from the table?
   A. Select * from table_name;

3. Q. What is a join?
   A. Join is a process of retrieve pieces of data from different sets (tables) and returns them to the user or program as one "joined" collection of data.

4. Q. What kinds of joins do you know? Give examples.
   A. We have self join, outer joint (LEFT, RIGHT), , cross-join (Cartesian product n*m rows returned)
Exp:
outer joint
SELECT Employee.Name, Department. DeptName
FROM Employee, Department
WHERE Employee.Employee_ID = Department.Employee_ID;

cross-join
SELECT * FROM table1, table2;

self join
SELECT e1.name | |'   '˜ | | e2.ename FROM emp e1, emp e2 WHERE e1. emp_no = e2.emp_no;

The following summarizes the result of the join operations:

• The result of T1 INNER JOIN T2 consists of their paired rows where the join-condition is true.
•   The result of T1 LEFT OUTER JOIN T2 consists of their paired rows where the join-condition is true and, for each unpaired row of T1, the concatenation of that row with the null row of T2. All columns derived from T2 allow null values.
•   The result of T1 RIGHT OUTER JOIN T2 consists of their paired rows where the join-condition is true and, for each unpaired row of T2, the concatenation of that row with the null row of T1. All columns derived from T1 allow null values.
• The result of T1 FULL OUTER JOIN T2 consists of their paired rows and, for each unpaired row of T2, the concatenation of that row with the null row of T1 and, for each unpaired row of T1, the concatenation of that row with the null row of T2. All columns derived from T1 and T2 allow null values.

5. Q. How do you add record to a table?
   A. INSERT into table_name VALUES ('˜ALEX'™ , 33 , '˜M'™);

6. Q. How do you add a column to a table?
    A. ALTER TABLE Department
       ADD (AGE, NUMBER);

7. Q. How do you change value of the field?
    A. UPDATE EMP_table
       set number = 200 where item_munber = 'CD';

update name_table set status = 'enable' where phone = '4161112222';

update SERVICE_table set REQUEST_DATE = to_date ('2006-03-04 09:29', 'yyyy-
mm-dd hh24:MI') where phone = '4161112222';

8. Q. What does COMMIT do?
    A. Saving all changes made by DML statements

9. Q. What is a primary key?
    A. The column (columns) that has completely unique data throughout
the table is known as the primary key field.

10. Q. What are foreign keys?
    A. Foreign key field – is a field that links one table
to another table's primary or foreign key.

11. Q. What is the main role of a primary key in a table?
    A. The main role of a primary key in a data table is to maintain the
internal integrity of a data table.

12. Q. Can a table have more than one foreign key defined?
    A. A table can have any number of foreign keys defined. It can have only
       one primary key defined.

13. Q. List all the possible values that can be stored in a BOOLEAN data
field.
     A. There are only two values that can be stored in a BOOLEAN data field:
         -1(true) and 0(false).

14 Q. What is the highest value that can be stored in a BYTE data field?
    A. The highest value that can be stored in a BYTE field is 255. or from -
128
       to 127. Byte is a set of Bits that represent a single character.
       Usually there are 8 Bits in a Byte, sometimes more, depending on how
       the measurement is being made. Each Char requires one byte of memory
       and can have a value from 0 to 255 (or 0 to 11111111 in binary).

15. Q. How many places to the right of the decimal can be stored in a
        CURRENCY data field?
    A. The CURRENCY data type can store up to four places to the right of
the
       decimal. Any data beyond the fourth place will be truncated by Visual
       Basic without reporting an error.

16. Q. What is a stored procedure?
    A. A procedure is a group of PL/SQL statements that can be called by
       a name. Procedures do not return values they perform tasks.

17. Q. Describe how NULLs work in SQL?
     A. The NULL is how SQL handles missing values.
      Arifthmetic operation with NULL in SQL will return a NULL.

18. Q. What is Normalization?
     A. The process of table design is called normalization.

19.   Q. What is referential integrity constraints?
      A. Referential integrity constraints are rules
       that are partnof the table in a database schema.

20.   Q. What is Trigger?
      A. Trigger will execute a block of procedural code
      against the database when a table event occurs.
      A2. A trigger defines a set of actions that are performed in response
      to an insert, update, or delete operation on a specified table. When
      such an SQL operation is executed, in this case the trigger has been
      activated.

21.   Q. Which of the following WHERE clauses will return only rows
 that have a NULL in the PerDiemExpenses column?
A.   WHERE PerDiemExpenses <>
B.   WHERE PerDiemExpenses IS NULL
C.   WHERE PerDiemExpenses = NULL
D.   WHERE PerDiemExpenses NOT IN (*)

      A. B is correct ï¿½ When searching for a NULL value in a column, you
must
 use the keyword IS. No quotes are required around the keyword NULL.

22.   Q. You issue the following query:SELECT FirstName FROM
StaffListWHERE FirstName LIKE'_A%'Which names would be
returned by this query? Choose all that apply.
A.   Allen
B.   CLARK
C.   JACKSON
D.   David

      A. C is correct ï¿½ Two wildcards are used with the LIKE operator.
The underscore (_) stands for any one character of any
case, and the percent sign (%) stands for any number of
characters of any case including none. Because this string
starts with an underscore rather than a percent sign, it won't
return Allen or Clark because they represent zero and two
characters before the "A". If the LIKE string had been "%A%",
both of these values would have been returned.
David was not returned because all non-wild card characters
are case sensitive. Therefore, only strings
with an uppercase "A" as their second letter are returned

23.   Q. Write a SQL SELECT query that only returns each city only once from
Students table?
Do you need to order this list with an ORDER BY clause?

A. SELECT DISTINCT City
FROM Students;

The Distinct keyword automatically sorts all data
 in ascending order. However, if you want the data
 sorted in descending order, you have to use an ORDER BY clause

24.   Q. Write a SQL SELECT sample of the concatenation operator.

       A. SELECT LastName ||',' || FirstName, City FROM Students;

25.   Q. How to rename column in the SQL SELECT query?

       A. SELECT LastName ||',' || FirstName
           AS "Student Name", City AS "Home City"
            "FROM StudentsORDER BY "Student Name"

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26.   Q. Write SQL SELECT example how you limiting the rows returned with a
WHERE clause.

       A. SELECT InstructorID, Salary FROM Instructors
WHERE Salary > 5400 AND Salary < 6600;

27.   Q. Write SQL SELECT query that returns the first and
last name of each instructor, the Salary,
and gives each of them a number.

       A. SELECT FirstName, LastName, Salary,
ROWNUM FROM Instructors;

28.   Q. Which of the following functions can be used only with numeric
values?
(Choose all that apply.)
A.   AVG
B.   MIN
C.   LENGTH
D.   SUM
E.   ROUND

       A. A and D ï¿½ Only A and D are correct. The MIN function
works with any character, numeric, or date datatype.
The LENGTH function is a character function that returns
the number of letters in a character value. The ROUND
function works with both numeric and date values.

29. Q. Which function do you use to remove all padded characters
to the right of a character value in a column with a char datatype?
A.   RTRIM
B.   RPAD
C.   TRIM

A.   C ï¿½ The TRIM function is used to remove padded spaces.
LTRIM and RTRIM functions were included in earlier versions
of Oracle, but Oracle 8i has replaced them with a single
TRIM function

30. Q. Which statement do you use to eliminate padded spaces
 between the month and day values in a function TO_CHAR(SYSDATE,'Month, DD,
YYYY') ?

    A. To remove padded spaces, you use the "fm"
prefix before the date element that contains the spaces.
    TO_CHAR(SYSDATE,'fmMonth DD, YYYY')

31. Q. Is the WHERE clause must appear always before the GROUP BY clause in
SQL SELECT ?

    A. Yes.
The proper order for SQL SELECT
clauses is: SELECT, FROM, WHERE, GROUP BY, HAVING, ORDER BY.
Only the SELECT and FROM clause are mandatory.

32. Q. How Oracle executes a statement with nested subqueries?

    A. When Oracle executes a statement with nested subqueries,
it always executes the innermost query first. This query passes its
results to the next query and so on until it reaches the outermost query.
It is the outermost query that returns a result set.

33. Q. Which operator do you use to return all of the rows
from one query except rows are returned in a second query?

    A. You use the MINUS operator to return all rows from one query except
where duplicate rows are found in a second query. The UNION operator
returns all rows from both queries minus duplicates. The UNION ALL operator
returns all rows from both queries including duplicates.
The INTERSECT operator returns only those rows that exist in both queries.

34. Q. How you will create a column alias? (Oracle 8i)

    A. The AS keyword is optional when specifying a column alias.
You must enclose the column alias in double quotes when the alias
contains a space or lowercase letters. If you specify an alias in l
owercase letters without double quotes, the alias will appear in uppercase.

35 Q. Which of the following statements are Data Manipulation Language
commands?
A.   INSERT
B.   UPDATE
C.   GRANT
D.   TRUNCATE
E.   CREATE

    A.   A and B ï¿½ The INSERT and UPDATE statements are
Data Manipulation Language (DML) commands.
GRANT is a Data Control Language (DCL) command.
TRUNCATE and CREATE are Data Definition Language (DDL) commands

36. Question. What is Oracle locking?
    A. Oracle uses locking mechanisms to protect data from
being destroyed by concurrent transactions.

37. Question. What Oracle lock modes do you know?
     A. Oracle has two lock modes: shared or exclusive.
Shared locks are set on database resources so that many transactions
 can access the resource.
Exclusive locks are set on resources that ensure
one transaction has exclusive access to the database resource

38. Question. What is query optimization?
     A. Query optimization is the part of the query
process in which the database system compares
different query strategies and chooses the one with
the least expected cost

39. Question. What are the main components of Database management systems
software.
     A. The database management system software includes
 components for storage management, concurrency control, transaction
processing, database manipulation interface, database definition interface,
and database control interface.

40. Question. What are the main attributes of database management system?
     A. A database management system is composed of five elements: computer
hardware, software, data, people (users), and operations procedures.

41. Question. What is transaction?
      A. A transaction is a collection of applications
code and database manipulation code bound into an indivisible unit of
execution.
it consists from:
BEGIN-TRANSACTION Name
Code
END TRANSACTION Name

42. Question. What databases do you know?
Informix
DB2
SQL
Oracle

43. Question. Explain SQL SELECT example:
     select j.FILE_NUM
  from DB_name.job j, DB_name.address a
where j.JOB_TYPE ='C'
  AND j.COMPANY_NAME = 'TEST6'
  AND j.OFFICE_ID = '101'
  AND j.ACTIVE_IND = 'Y'
  AND a.ADDRESS_STATUS_ID = 'H'
  AND a.OFFICE_ID = '101'
  AND a.FILE_NUM = j.FILE_NUM order by j.FILE_NUM;

Answer: j and a aliases for table names. this is outer joint select
statment from two tables.

44.   Q. Describe some Conversion Functions that you know

     A. TO_CHAR converts a number / date to a string.
        TO_DATE converts a string (representing a date) to a date.

        TO_NUMBER converts a character string containing digits to a numeric
data type, it accepts one parameter which is a column value or a string
literal

45.   Q. Describe some Group Functions that you know

A. 1) The COUNT function tells you how many rows were in the result set.
      SELECT COUNT(*) FROM TESTING.QA

   2) The AVG function tells you the average value of a numeric column.
      SELECT MAX(SALARY) FROM TESTING.QA

   3) The MAX and MIN functions tell you the maximum and minimum value of a
numeric column.
      SELECT MIN(SALARY) FROM TESTING.QA

   4) The SUM function tells you the sum value of a numeric column.
      SELECT SUM(SALARY) FROM TESTING.QA

46. Question. What does DML stand for?
    A. DML is Data Manipulation Language statements. (SELECT)

47. Question. What does DDL stand for?
    A. DDL is Data Definition Language statements. (CREATE)

48. Question. What does DCL stand for?

    A. DCL is Data Control Language statements. (COMMIT)

49. Question: Describe SQL comments.

    A. SQL comments are introduced by two consecutive hyphens
    (--) and ended by the end of the line.

50.   Q. In what sequence SQL statement are processed?

     A. The clauses of the subselect are processed in the following sequence
(DB2):
1. FROM clause
2. WHERE clause
3. GROUP BY clause
4. HAVING clause

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5. SELECT clause
6. ORDER BY clause
7. FETCH FIRST clause


51.     Q. Describe TO_DATE function.

        A. The TO_DATE function returns a timestamp from a character string
that has been interpreted using a character template.
TO_DATE is a synonym for TIMESTAMP_FORMAT.

52.     Question:
 In the domain table we have status as a numeric value from 01 to 04 and we
 have text definition of these values in the design document.
 Write SQL query to see the result as a text definitions that is corresponded
 to these values. (DB2)
      A. select TB1.member_id, TB1.bu_id, TB1.program,  TB2.num,
        case TB1.status
                when '01' then 'Auto renew'
                when '02' then 'Expired'
                when '03' then 'Sold'
                when '04' then 'Terminated'

        else TB_name.status
        end
         from DB_name.TB_name1  TB1,
        DB_name.TB_name2 TB2
         where
         TB1.program in ('com', 'org')
         and TB1.member_role  = '100'
         order by  TB1.member_id
         fetch first 30 rows only
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**On this page I put some SQL interview questions. These SQL interview questions are very
simple and mainly were used for interviewing software testers who is involved in database
SQL testing or grey box testing. The interview questions found above are listed in order of
complexity. However all new interview questions (regardless of there difficulty) will be
added to the bottom of the list. You can find more SQL interview questions searching the
WEB.**

END Basic SQL interview questions.