**Q. What is a Dual Table?**

Dual table is owned by the user SYS and can be accessed by all users. It contains one column**Dummy** and one row with the value **X.** The Dual Table is useful when you want to return a value only once. The value can be a constant, pseudocolumn or expression that is not derived from a table with user data.

**Q. Describe different types of General Function used in SQL?**

General functions are of following types:

**1) NVL:** Converts a null value to an actual value. NVL (exp1, exp2) .If exp1 is null then NVL function return value of exp2.

**2) NVL2:** If exp1 is not null, nvl2 returns exp2, if exp1 is null, nvl2 returns exp3. The argument exp1 can have any data type. NVL2 (exp1, exp2, exp3)

**3) NULLIF:** Compares two expressions and returns null if they are equal or the first expression if they are not equal. NULLIF (exp1, exp2)

**4) COALESCE:** Returns the first non-null expression in the expression list. COALESCE (exp1, exp2… expn). The advantage of the COALESCE function over NVL function is that the COALESCE function can take multiple alternative values.

**Q. What are Joins and how many types of Joins are there?**

Joins are used to retrieve data from more than one table.

There are 5 different types of joins.

|  |  |
| --- | --- |
| **Oracle 8i and Prior** | **SQL: 1999 (9i)** |
| Equi Join | Natural/Inner Join |
| Outer Join | Left Outer/ Right Outer/ Full Outer Join |
| Self Join | Join ON |
| Non-Equi Join | Join USING |
| Cartesian Product | Cross Join |

**Q. What is a difference between Commit, Rollback and Savepoint?**

COMMIT: Ends the current transaction by making all pending data changes permanent. ROLLBACK: Ends the current transaction by discarding all pending data changes. SAVEPOINT: Divides a transaction into smaller parts. You can rollback the transaction till a particular named savepoint.

**Q. What is a difference between USER TABLES and DATA DICTIONARY?**

USER TABLES: Is a collection of tables created and maintained by the user. Contain USER information. DATA DICTIONARY: Is a collection of tables created and maintained by the Oracle Server. It contains database information. All data dictionary tables are owned by the SYS user.

**Q. What is a difference between Truncate and Delete?**

The main difference between Truncate and Delete is as below:

|  |  |
| --- | --- |
| TRUNCATE | DELETE |
| Removes all rows from a table and releases storage space used by that table. | Removes all rows from a table but does not release storage space used by that table. |
| TRUNCATE Command is faster. | DELETE command is slower. |
| Is a DDL statement and cannot be Rollback. | Is a DDL statement and cannot be Rollback. |
| Database Triggers do not fire on TRUNCATE. | Database Triggers fire on DELETE. |

**Q. What are Constraints? How many types of constraints are there?**

Constraints are used to prevent invalid data entry or deletion if there are dependencies. Constraints enforce rules at the table level.

5 types of constraints:

1) Not Null Constraint

2) Unique Key Constraint : UNIQUE Key Constraint ensures that every value in a column or set of columns must be unique. Unique key column can store NULL values.

3) Primary Key Constraint : Uniquely identifies each row in the Table.

4) Foreign Key Constraint : Is also called Referential Integrity Constraint. FOREIGN KEY is one in which a column or set of columns take references of the Primary/Unique key of same or another table.

5) Check Key Constraint. : Defines a condition that each row must satisfy. A single column can have multiple CHECK Constraints.

**Q. What is a difference between ON DELETE CASCADE and ON DELETE SET NULL?**

**DELETE :** the row in the parent table cannot be deleted if it is referenced in the child table.

**ON DELETE CASCADE :** when the row in the parent table is deleted, the dependent rows in the child table will also be deleted.

**ON DELETE SET NULL** : Coverts foreign key values to null when the parent value is removed.

**Q. What is a Candidate Key?**

The columns in a table that can act as a Primary Key are called Candidate Key.

**Q.  What are Views and why they are used?**

A View logically represents subsets of data from one or more table. The tables on which a view is based are called Base Tables. The View is stored as a SELECT statement in the data dictionary. View definitions can be retrieved from the data dictionary table: USER\_VIEWS.

Views are used:

1) To restrict data access

2) To make complex queries easy

4) Views provide groups of user to access data according to their requirement.

**Q. Trigger and its types ?**

Trigger is also same as stored procedure & also it will automatically invoked whenever DML operation performed against table or view.

**Q. Write a PL/SQL Program which raise a user defined exception on thursday?**

declare

obj exception

begin

if to\_char(sysdate,’DY’)=’THU’

then

raise obj;

end if;

exception

when obj then

dbms\_outline.put\_line(‘my excpetion raised on Thursday’);

end;

Q. Write a PL/SQL program to retrieve emp table and then display max salary?

declare

Sal number(10);

Begin

Select max(salary) intr val from employee;

Dbms\_outline.put\_line(val);

End;

**Difference between view and materialized view**

View is a logical table. View can hold the query. We can’t create indexes on view. View will create security purpose

Mv is a physical table. Mv can hold the query with refresh data. We can create indexes on mv. Mv will create performance issues

**9.Do a view contain data?**

Ans: Views do not contain or store data

**15.What is an Oracle index?**

Ans: An index is an optional structure associated with a table to have direct access to rows, which can be created to increase the performance of data retrieval. Index can be created on one or more columns of a table. Index may also be considered as a ordered list of content of a column.

**What is difference between CHAR and VARCHAR2?**

CHAR pads blank spaces to the maximum length. VARCHAR2 does not pad blank spaces

**26.What is a tablespace?**

Ans: A database is divided into Logical Storage Unit called tablespaces. A tablespace is used to grouped related logical structures together.

**31.Difference between rowid and rownum?**

ROWID is pseudo column in every table. The physical address of the rows is use to for the ROWID

Rownum is the sequential number of rows in the result set object.

**39.How will the fetch the last inserted record in any table ?**

Ans: select column 1, column 2.... From where rowid = (select max(rowid) from table);

**50.Describe Oracle database’s physical and logical structure ?**

Ans: Physical: Data files, Redo Log files, Control file. Logical : Tables, Views, Tablespaces, etc.

Q. Can you commit in trigger ?

No

Q. Find repeated data in table?

Q. Write a procedure to select some data from a table which occurred more than once.

**Q. What is the difference between inner and outer join?**

Inner join returns the matching rows between two tables based on condition.

If no match found then returns null set.

Example:

SELECT dept.name DEPARTMENT, emp.name EMPLOYEE

FROM DEPT dept, EMPLOYEE emp

WHERE emp.dept\_id = dept.id

Outer Join returns the matching records as well as non matching records on basis of outer join type.

Example:

SELECT dept.name DEPARTMENT, emp.name EMPLOYEE

FROM DEPT dept LEFT OUTER JOIN EMPLOYEE emp

ON dept.id = emp.dept\_id

**Q. Difference between join, union, intersect and minus?**

**Join** works on tables which have some common columns. And result set could be matching records or non-matching records or all records

**Union** works on tables with same structure. And resultset is all records of both tables eliminating the duplicate ones.

Example:

Select \* from Employee1

UNION

Select \* from Employee2

**Intersect** returns matching records of two tables.

**MINUS** returns the non matching records of first table.

**Q. Difference between UNION and UNION ALL ?**

Union returns unique rows if duplicates are present,

UNION ALL returns all rows including multiple duplicates.

**Q. Difference between where and having clause?**

WHERE clause can only be applied on a static non-aggregated column

use HAVING for aggregated columns.

Example: Suppose we want to see only those departments where department ID is greater than 3.

SELECT \* FROM DEPT WHERE ID > 3

suppose we want to see only those Departments where Average salary is greater than 80.

SELECT dept.name DEPARTMENT, avg(emp.sal) AVG\_SAL FROM DEPT dept LEFT OUTER JOIN EMPLOYEE emp

ON dept.id = emp.dept\_id (+)

GROUP BY dept.name

HAVING AVG(emp.sal) > 80

**Q. What is self join?**

joining one table with itself.

Self Join is often very useful to convert a hierarchical structure into a flat structure

Example: employee-manager hierarchy (Left Outer Join is used here. We can use self join also)

SELECT e.name EMPLOYEE, m.name MANAGER

FROM EMPLOYEE e, EMPLOYEE m

WHERE e.mgr\_id = m.id (+)

## Q. How to select first 5 records from a table?

Select \* from Employee where rownum <=5; // in oracle

Select TOP 5 \* from Employee; // in sql server

## Q. difference between ROWNUM pseudo column and ROW\_NUMBER() function?

ROWNUM does not work with order by.

ROW\_NUMBER() is an function which is used in conjunction to OVER() clause wherein we can specify ORDER BY.

Example : select row\_number(order by sal desc) , name, sal from Employee;

Q. What is RANK and DENSE\_RANK ?

**RANK** does not assign unique numbers—nor does it assign contiguous numbers. If two records tie for second place, no record will be assigned the 3rd rank as no one came in third

SELECT name, sal, rank() over(order by sal desc) rank\_by\_sal

FROM EMPLOYEE o

| **Name** | **Sal** | **RANK\_BY\_SAL** |
| --- | --- | --- |
| Hash | 100 | 1 |
| Robo | 100 | 1 |
| Anno | 80 | 3 |
| Darl | 80 | 3 |
| Tomiti | 70 | 5 |
| Pete | 70 | 5 |

**DENSE\_RANK**, like RANK, does not assign unique numbers, but it does assign contiguous numbers. Even though two records tied for second place, there is a third-place record.

SELECT name, sal, dense\_rank() over(order by sal desc) dense\_rank\_by\_sal

FROM EMPLOYEE o

| **name** | **Sal** | **DENSE\_RANK\_BY\_SAL** |
| --- | --- | --- |
| Hash | 100 | 1 |
| Robo | 100 | 1 |
| Anno | 80 | 2 |
| Darl | 80 | 2 |
| Tomiti | 70 | 3 |
| Pete | 70 | 3 |

**Q. What will be output of select 1 from employee;**

This query will return 1 column with value 1 for all rows of employee table. And that column name will also be 1.

**Q. How to find duplicate records**

Select name, count(\*) from employee group by name having count(\*)>1

**Q. What is NULL value in oracle**?

NULL value represents missing or unknown data. This is used as a place holder or represented it in as default entry to indicate that there is no actual data present.

Q. **Table Tbl1 has 100 rows, Table Tbl2 has 0 rows so number of rows returned by the below query?  
SELECT Tbl1.\* from Tbl1, Tbl2;**  
Ans : No row will be retun by this query