TARUN R
ORACLE INTERVIEW - 1

SQL

Question No 1: - Find out 3rd highest salary in Employee Table

Answer: Select Max(salary)from employees

Where Salary < (select Max(salary)from employees)

where Salary < (select Max(salary)from employees);

Question No 2: - Display the number of employee in the one Department

Answer:

select count (distinct emp_id) from employee group by emp_id having count(emp_id) > 1 ;

Question No 3: - Display the names of all employees who are working in department number 10.

Answer: select emp_name from emp where deptno=10;

Question No 4: - Display the department numbers with more than three employees in each dept.

Answer: select dept_number, count(*) from emp group by dept_number having count(*)>3;

Question No 5: Display those employees who are working as manager?

Answer: select * from emp where emp_number in (select manager from emp);

Question No 6: - what is triggers? list the type of triggers?

Answer: A trigger is a special type of stored procedure in database that automatically invokes/runs/fires when an event occurs in the database server.

A trigger uses the special table to keep a copy of the row which we have just inserted, deleted or modified.

There are three types of triggers in SQL Server.

1. DDL Trigger
2. DML Trigger
3. Logon Trigger

Question No 7: - list the types of key in SQL

Answer:

a. **Primary Key**
   This constraint uniquely identifies each record in a table. Primary keys must contain UNIQUE values, and cannot contain NULL values.
b. **Foreign key**
   It creates relationship between any two tables, to create FK, the master table should have PK defined on the common column of the master table.

Question No 8: - what is composite key?

Answer: Composite key is a key which is the combination of more than one field or column of a given table. It may be a candidate key or primary key.

Question No 9: - can you use two primary keys in one table?

Answer: No. You cannot use more than 1 primary key in the table. for that you have composite key which is combination of multiple fields.

Question No 10: - what is views?

Answer: A view is nothing more than a SQL statement that is stored in the database with an associated name. A view is actually a composition of a table in the form of a predefined SQL query.

Question No 11: - can you modify data using view?

Answer: You can't directly modify data in views based on union queries.

PYTHON

Question No 1: - What is lambda in Python? Why is it used?
Answer: Lambda is an anonymous function in Python, that can accept any number of arguments, but can only have a single expression.

```
multi = lambda a, b : a * b
print(multi(2, 5))
```

output:10

Question No 2: What are negative indexes and why are they used?
Answer: Negative indexes are the indexes from the end of the list or tuple or string.

```
array = [1, 2, 3, 4, 5, 6]
print(array[-1])
```

output: 6

SHARATH SUB HRAMANYA M K

ORACLE INTERVIEW – 1

SQL

Question No 1: - Find out 3rd highest salary in Employee Table

Answer: Select Max(salary)from employees
Where Salary < (select Max(salary)from employees)
where Salary < (select Max(salary)from employees);

Question No 2: Display those mangers who are getting less than his employees Sal.

Answer: Select emp_no from employee e where sal<any(select sal from employee where mgr=e.emp_no);

Question No 3: List the employee whose names having a character set 'll' together?

Answer: select * from emp where ename like '%LL%';

Question No 4: Add this column to employee table ename Varchar(20).

Answer: ALTER TABLE EMP ADD COLUMN ENAME VARCHAR(20);

Question No 5: Display those mangers who are getting less than his employees Sal.

Answer: SELECT A.* FROM EMP A, EMP B WHERE A.SAL<B.SAL
AND A.EMPNO=B.MGR;

Question No 6: Display all employees with there department name.

Answer: select ename, dname from emp e, dept d where e.deptno = d.deptno;

Question No 7: What is SQL?

Answer: SQL stands for Structured Query Language, and it is used to communicate with the Database.

Question No 8: What is subquery?

A subquery is a query within another query. The outer query is called as main query, and inner query is called subquery.

SHARATH SUB HRAMANYA M K

ORACLE INTERVIEW – 2

SQL

Question No 1: Explain SDLC?

Answer: SDLC or the Software Development Life Cycle is a process that produces software with the highest quality and lowest cost in the shortest time possible. SDLC provides a well-structured flow of phases that help an organization to quickly produce high-quality software which is well-tested and ready for production use.

Question No 2 Difference between DELETE and TRUNCATE?

Answer: The following points explain the differences between delete and truncate command:

The DELETE statement is used when we want to remove some or all of the records from the table, while the TRUNCATE statement will delete entire rows from a table.

DELETE is a DML command as it only modifies the table data, whereas the TRUNCATE is a DDL command.

DELETE command can filter the record/tuples by using the WHERE clause. However, the TRUNCATE command does not allow to use WHERE clause, so we cannot filter rows while truncating.

DELETE activates all delete triggers on the table to fire. However, no triggers are fired on the truncate operation because it does not operate on individual rows..

DELETE statement makes an entry in the transaction log for each deleted row whereas, TRUNCATE records the transaction log for each data page.

TRUNCATE command is faster than the DELETE command as it deallocates the data pages instead of rows and records data pages instead of rows in transaction logs.

Once the record deletes by using the TRUNCATE command, we cannot recover it back. In contrast, we can recover the deleted data back which we removed from the DELETE operation.

Question No 3 Difference between TRUNCATE and DROP?

Answer:

1.	The DROP command is used to remove table definition and its contents.	Whereas the TRUNCATE command is used to delete all the rows from the table.

2.	In the DROP command, table space is freed from memory.	While the TRUNCATE command does not free the table space from memory.
3.	DROP is a DDL(Data Definition Language) command.	Whereas the TRUNCATE is also a DDL(Data Definition Language) command.
4.	In the DROP command, view of table does not exist.	While in this command, view of table exist.
5.	In the DROP command, integrity constraints will be removed.	While in this command, integrity constraints will not be removed.
6.	In the DROP command, undo space is not used.	While in this command, undo space is used but less than DELETE.
7.	The DROP command is quick to perform but gives rise to complications.	While this command is faster than DROP.

Question No 4 Diffrence between Primary Key and Unique Key?

Answer Primary key will not accept NULL values whereas Unique key can accept NULL values.

A table can have only one primary key whereas there can be multiple unique key on a table.

A Clustered index automatically created when a primary key is defined whereas Unique key generates the non-clustered index.

Question No 5. Can we use two Primary Key in two?

No You cannot have two primary keys in one table, but you can have composite primary key

Because Primary key is an identity to the row and there can't be two IDs against a row.

Question No 6. what is OOPS Concepts? ---> python

Answer: In Python, object-oriented Programming (OOPs) is a programming paradigm that uses objects and classes in programming. It aims to implement real-world entities like inheritance, polymorphisms,

encapsulation, etc. in the programming. The main concept of OOPs is to bind the data and the functions that work on that together as a single unit so that no other part of the code can access this data.

Question No 7. types in OOPS Concepts? -------> python

Answer: Main Concepts of Object-Oriented Programming (OOPs)

a. Class
b. Objects
c. Polymorphism
d. Encapsulation
e. Inheritance

Question No 8. Difference between Sets and Lists?

List: Lists are just like dynamic sized arrays, declared in other languages (vector in C++ and ArrayList in Java). Lists need not be homogeneous always which makes it the most powerful tool in Python. The main characteristics of lists are –

The list is a datatype available in Python which can be written as a list of comma-separated values (items) between square brackets.

List are mutable .i.e it can be converted into another data type and can store any data element in it.

List can store any type of element.

Set: In Python, Set is an unordered collection of data type that is iterable, mutable, and has no duplicate elements.. The main characteristics of set are –

Sets are an unordered collection of elements or unintended collection of items In python.

It is defined under curly braces{}

Sets are mutable, however, only immutable objects can be stored in it.

Question No 9. Display department numbers and total number of employees within each group.

Answer: select deptno, count(*) from emp group by deptno;

Question No 10: Display the name of employees who earns highest salary

Answer: select ename from emp where sal=(select max(sal) from emp);

Question No 11: Display the names of employees who earn highest salaries in their respective job groups.

Answer: select * from emp e where sal in (select max(sal) from emp group by job having e.job=job)

Question No 12. how to swap the numbers?

Answer: a=2 , b = 3

a,b = b,a

output: **a=3 , b= 2**

Question No 15. difference between overloading and overriding?

Answer:

S.NO	Method Overloading	Method Overriding
1.	In the method overloading, methods or functions must have the same name and different signatures.	Whereas in the method overriding, methods or functions must have the same name and same signatures.
2.	Method overloading is a example of compile time polymorphism.	Whereas method overriding is a example of run time polymorphism.
3.	In the method overloading, inheritance may or may not be required.	Whereas in method overriding, inheritance always required.
4.	Method overloading is performed between methods within the class.	Whereas method overriding is done between parent class and child class methods.
5.	It is used in order to add more to the behavior of methods.	Whereas it is used in order to change the behavior of exist methods.
6.	In method overloading, there is no need of more than one class.	Whereas in method overriding, there is need of at least of two classes.

Question No 16. how to create existing table in SQL with only table structured?

Answer: CREATE TABLE new_table AS (SELECT * FROM old_table WHERE 1=2);

SPOORTHI M P

ORACLE INTERVIEW -1 QUESTIONS

1. **Write a python code to swap two variables**

```
a = 11
b = 7

temp = a
a = b
b = temp

print(a) # 7
print(b) # 11
```

2. **What is Sub query? Explain with an example (write down the query)**

-- A sub-query is also called as a nested query.

Ex -> **List of departments that are having no employees**

--Select * from departments where department_id not in (Select department_id from employees)

Here, the **inner query** will be executed first.

The output of **inner query** is passed as input to the **outer query.**

To write a sub-query, at least 1 common column should be existing between the tables.

3. **Difference between Correlated sub query and Non Correlated sub query**

1. Correlated subquery - In correlated subquery, inner query is dependent on the outer query. Outer query needs to be executed before inner query

2. Non-Correlated subquery - In non-correlated query inner query does not dependent on the outer query. They both can run separately.

4. **What are Constraints (explain in detail)**

-- A constraint is a condition which restricts the invalid data in the table.

Types of Constraints:

1. NOT NULL
2. UNIQUE
3. PRIMARY KEY

4. FOREIGN KEY
5. CHECK

NULL

- NULL is nothing; it is neither zero nor blank space
- It will not occupy any space in the memory
- Two NULLS are never same in Oracle.
- NULL represents unknown value

NOT NULL

- NOT NULL will ensure at least some value should be present in a column

UNIQUE

- It will not allow any duplicates in a column
- UNIQUE column can take multiple NULL (s)

PRIMARY KEY

- It is the combination of NOT NULL and UNIQUE
- Only one PK is allowed in a table
- PK identifies a record uniquely in a table
- Creation of PK is not mandatory, but it is highly recommended to create

FOREIGN KEY

- FK creates relationship between any two tables
- To create FK, the master table should have PK defined on the common column of the master table
- We can have more than 1 FK in a given table

CHECK

It is used to provide additional validations as per the customer requirements.

Ex - 1. salary > 0

2. emp_id should start with 1

5. Difference between Primary key and Unique key

-- UNIQUE

- It will not allow any duplicates in a column
- UNIQUE column can take multiple NULL (s)

PRIMARY KEY

- It is the combination of NOT NULL and UNIQUE
- Only one PK is allowed in a table
- PK identifies a record uniquely in a table

6. What is DDL statements in sql

-- **DDL** – Data Definition Language – the various commands in DDL are --Create, Drop, Truncate, Alter,Rename

1. **CREATE**

-- The CREATE command is used is to create a new SQL database

2. DROP

-- It removes both data and the structure of the table permanently from the database.
Ex -> DROP TABLE table _name;

3. TRUNCATE

-- It removes all the data permanently, but the structure of the table remains as it is.
Ex –> TRUNCATE TABLE table_name;

4. ALTER

-- alters / changes the structure of the table (i.e, - adding columns, removing columns,renaming columns etc).

Ex-> ALTER TABLE Employee ADD Address VARCHAR(100) City VARCHAR(25),

5. RENAME

-- It renames a table.

Syntax: rename <TABLE_OLD> to <NEW_TABLE>

Ex: rename test_tbl to employee_tb

6. What are triggers and types

-- Triggers are stored programs, which are automatically executed or fired when some events occur.

Triggers are, in fact, written to be executed in response to any of the following events −

- A **database manipulation (DML)** statement (DELETE, INSERT, or UPDATE)
- A **database definition (DDL)** statement (CREATE, ALTER, or DROP).
- A **database operation** (SERVERERROR, LOGON, LOGOFF, STARTUP, or SHUTDOWN).

Triggers can be defined on the table, view, schema, or database with which the event is associated.

7. **What is a truncate? what type of statement it is?**

   It removes all the data permanently, but the structure of the table remains as it is.

   Ex –> TRUNCATE TABLE table_name;

   -- TRUNCATE is a DDL statement – Data Definition Language

8. **List the python libraries that you have used**

   1. Numpy

   2.Pandas

   3.SciPy

   4. Scikit-Learn

9. **What are joins in SQL? write down the query for self-join ?**

   --Joins are used to get data from more than one table. To join more than one table we need at least one column common in both tables.

   Tables get joined based on the condition specified.

   A JOIN clause is used to combine rows from two or more tables, based on a related column between them.

   There are different types of joins in SQL as below:

   - INNER Join
   - LEFT Join
   - RIGHT Join
   - FULL Join
   - SELF Join
   - CROSS Join

   --Joining a table to itself is called as **SELF JOIN**

   Ex -> **Display the employee names who have same salaries**

   Select A.first_name emp, B.SALARY SALARY from A_EMP A Join A_EMP B On A.SALARY=B.SALARY where A.Employee_Id<>B.EMPLOYEE_ID

RAKSHITHA HS

ORACLE INTERVIEW -1 QUESTIONS

QUESTION NO 1: Display the name of those employees who are getting highest salary.

Answer: select empno,ename,sal from emp where sal=(select max(sal) from emp);

QUESTION NO 2: Display department numbers and total salary for each department**.**

Answer: select deptno, sum(sal) from emp group by deptno;

QUESTION NO 3: Display those employees whose salary is equal to average of maximum and minimum.

Answer: SELECT * FROM EMP WHERE SAL=(SELECT MAX(SAL)+MIN(SAL)/2 FROM EMP);

QUESTION NO 4: What operator tests column for the absence of data?

Answer: NULL

QUESTION NO 5: What operator performs pattern matching?

Answer: LIKE

QUESTION NO 6: What command is used to get back the privileges offered by the GRANT command?

Answer: REVOKE

QUESTION NO 7: What is the difference between DELETE and TRUNCATE commands?

Answer: DELETE command is used to remove rows from the table, and WHERE clause can be used for conditional set of parameters. Commit and Rollback can be performed after delete statement.

TRUNCATE removes all rows from the table. Truncate operation cannot be rolled back.

QUESTION NO 8: How can you create an empty table from an existing table?

Answer: Select * into employee_id from employee where 1=2;

QUESTION NO 9: How to select unique records from a table?

Answer: Select DISTINCT employee_ID, employee_Name from employees;

QUESTION NO 10: What are the benefits of using Python?
Answer: Python is a general-purpose programming language that has a simple, easy-to-learn syntax that emphasizes readability and therefore reduces the cost of program maintenance.

Its high-level data structures, combined with dynamic typing and dynamic binding.

QUESTION NO 11: Give example of list comprehension

Answer:

```
my_list = [2, 3, 5, 7, 11]
squared_list = [x**2 for x in my_list]
```