Explore More

Subcription : Premium CDAC NOTES & MATERIAL @99

Contact to Join
Premium Group

Click to Join
Telegram Group

For More E-Notes

Join Our Community to stay Updated

TAP ON THE ICONS TO JOIN!

	codewitharrays.in freelance project available to buy contact on 8007592194	
SR.NO	Project NAME	Technology
1	Online E-Learning Platform Hub	React+Springboot+MySql
2	PG Mates / RoomSharing / Flat Mates	React+Springboot+MySql
3	Tour and Travel management System	React+Springboot+MySql
4	Election commition of India (online Voting System)	React+Springboot+MySql
5	HomeRental Booking System	React+Springboot+MySql
6	Event Management System	React+Springboot+MySql
7	Hotel Management System	React+Springboot+MySql
8	Agriculture web Project	React+Springboot+MySql
9	AirLine Reservation System / Flight booking System	React+Springboot+MySql
10	E-commerce web Project	React+Springboot+MySql
11	Hospital Management System	React+Springboot+MySql
12	E-RTO Driving licence portal	React+Springboot+MySql
13	Transpotation Services portal	React+Springboot+MySql
14	Courier Services Portal / Courier Management System	React+Springboot+MySql
15	Online Food Delivery Portal	React+Springboot+MySql
16	Muncipal Corporation Management	React+Springboot+MySql
17	Gym Management System	React+Springboot+MySql
18	Bike/Car ental System Portal	React+Springboot+MySql
19	CharityDonation web project	React+Springboot+MySql
20	Movie Booking System	React+Springboot+MySql

	freelance_Project available to buy contact on 8007592194	
21	Job Portal web project	React+Springboot+MySql
22	LIC Insurance Portal	React+Springboot+MySql
23	Employee Management System	React+Springboot+MySql
24	Payroll Management System	React+Springboot+MySql
25	RealEstate Property Project	React+Springboot+MySql
26	Marriage Hall Booking Project	React+Springboot+MySql
27	Online Student Management portal	React+Springboot+MySql
28	Resturant management System	React+Springboot+MySql
29	Solar Management Project	React+Springboot+MySql
30	OneStepService LinkLabourContractor	React+Springboot+MySql
31	Vehical Service Center Portal	React+Springboot+MySql
32	E-wallet Banking Project	React+Springboot+MySql
33	Blogg Application Project	React+Springboot+MySql
34	Car Parking booking Project	React+Springboot+MySql
35	OLA Cab Booking Portal	React+NextJs+Springboot+MySql
36	Society management Portal	React+Springboot+MySql
37	E-College Portal	React+Springboot+MySql
38	FoodWaste Management Donate System	React+Springboot+MySql
39	Sports Ground Booking	React+Springboot+MySql
40	BloodBank mangement System	React+Springboot+MySql

41	Bus Tickit Booking Project	React+Springboot+MySql
42	Fruite Delivery Project	React+Springboot+MySql
43	Woodworks Bed Shop	React+Springboot+MySql
44	Online Dairy Product sell Project	React+Springboot+MySql
45	Online E-Pharma medicine sell Project	React+Springboot+MySql
46	FarmerMarketplace Web Project	React+Springboot+MySql
47	Online Cloth Store Project	React+Springboot+MySql
48	Train Ticket Booking Project	React+Springboot+MySql
49	Quizz Application Project	JSP+Springboot+MySql
50	Hotel Room Booking Project	React+Springboot+MySql
51	Online Crime Reporting Portal Project	React+Springboot+MySql
52	Online Child Adoption Portal Project	React+Springboot+MySql
53	online Pizza Delivery System Project	React+Springboot+MySql
54	Online Social Complaint Portal Project	React+Springboot+MySql
55	Electric Vehical management system Project	React+Springboot+MySql
56	Online mess / Tiffin management System Project	React+Springboot+MySql
57		React+Springboot+MySql
58		React+Springboot+MySql
59		React+Springboot+MySql
60		React+Springboot+MySql

Spring Boot + React JS + MySQL Project List

Sr.No	Project Name	YouTube Link
1	Online E-Learning Hub Platform Project	https://youtu.be/KMjyBaWmgzg?si=YckHuNzs7eC84-IW
2	PG Mate / Room sharing/Flat sharing	https://youtu.be/4P9clHg3wvk?si=4uEsi0962CG6Xodp
3	Tour and Travel System Project Version 1.0	https://youtu.be/-UHOBywHaP8?si=KHHfE_A0uv725f12
4	Marriage Hall Booking	https://youtu.be/VXz0kZQi5to?si=llOS-QG3TpAFP5k7
5	Ecommerce Shopping project	https://youtu.be/vJ_C6LkhrZ0?si=YhcBylSErvdn7paq
6	Bike Rental System Project	https://youtu.be/FIzsAmIBCbk?si=7ujQTJqEgkQ8ju2H
7	Multi-Restaurant management system	https://youtu.be/pvV-pM2Jf3s?si=PgvnT-yFc8ktrDxB
8	Hospital management system Project	https://youtu.be/IynIouBZvY4?si=CXzQs3BsRkjKhZCw
9	Municipal Corporation system Project	https://youtu.be/cVMx9NVyI4I?si=qX0oQt-GT-LR_5jF
10	Tour and Travel System Project version 2.0	https://youtu.be/_4u0mB9mHXE?si=gDiAhKBowi2gNUKZ

Sr.No	Project Name	YouTube Link
11	Tour and Travel System Project version 3.0	https://youtu.be/Dm7nOdpasWg?si=P_Lh2gcOFhlyudug
12	Gym Management system Project	https://youtu.be/J8_7Zrkg7ag?si=LcxV51ynfUB7OptX
13	Online Driving License system Project	https://youtu.be/3yRzsMs8TLE?si=JRI_z4FDx4Gmt7fn
14	Online Flight Booking system Project	https://youtu.be/m755rOwdk8U?si=HURvAY2VnizIyJlh
15	Employee management system project	https://youtu.be/lD1iE3W_GRw?si=Y_jv1xV_BljhrD0H
16	Online student school or college portal	https://youtu.be/4A25aEKfei0?si=RoVgZtxMk9TPdQvD
17	Online movie booking system project	https://youtu.be/Lfjv_U74SC4?si=fiDvrhhrjb4KSlSm
18	Online Pizza Delivery system project	https://youtu.be/Tp3izreZ458?si=8eWAOzA8SVdNwlyM
19	Online Crime Reporting system Project	https://youtu.be/0UlzReSk9tQ?si=6vN0e70TVY1GOwPO
20	Online Children Adoption Project	https://youtu.be/3T5HC2HKyT4?si=bntP78niYH802I7N

Q - 1) What is the order of SQL statement execution (or) Query execution order

Execution Order Query statements

From Clause

Where clause

Group By clause,

Having clause

Order By clause

Select clause

Q - 2) Explain the where clause ?

Where clause used to filter the given conditions in the query where clause should be applied before the GROUP BY clause. where clause functions with the help of comparison predicate, when a comparison predicate does not evaluate a result to be true, all rows from the end result are deleted.

Q - 3) WHAT ARE THE TYPE OF SINGLE ROW FUNCTION IN SQL

Abs(): Converts (-Ve) Value Into (+Ve) Value.

Ceil(): Returns A Value Which Is Greater Than Or Equal To Given Value.

Mod();

Returns Remainder Value.

Round():

Nearest Value Given Expression.

Length():

Length Of Given String.

Lower():

CONVERT INTO CAPTICAL CASE INTO SMALLER CASE

Initcap():

To Convert First Char. Is Capital.

Ltirm():

To Remove Unwanted Spaces (Or) Unwanted Characters From Left Side Of Given String.

Rtrim():

To Remove Unwanted Spaces (Or) Unwanted Characters From Right Side Of Given String.

Trim():

To Remove Unwanted Spaces (Or) Unwanted Characters From Both Sides Of Given String.

Concat ():

Adding Two String Expressions

Replace ():

To Replace One String With Another String.

Substr():

It Returns Req.Substring From Given String Expression.

Add_Months():

Adding No.Of Months To The Date.

Last_Day():

Returns The Next Specified Day From The Given Date.

Conversion Functions: To_Char() To_Date()

Date Type To Char Type To Display Date In Different Format.

Q - 4) Display first 50% records from Employee table?

```
Select rownum,E.*
From Emp E
Where rownum<=(Select count(*)/2 from Emp);
```

Q - 5) What is the Query to fetch last record from the table?

```
Select *
from Emp
where Rowid= select max(Rowid) from Emp;
```

Q - 6) Display first 3 records of employee

```
SQL>SELECT *
```

```
2  FROM EMP

 3 WHERE ROWNUM<=3;
```

Q - 7) Display last 5 records of employee table?

```
SQL>SELECT *
  2  FROM EMP E1
  3  WHERE 5 > (SELECT COUNT(*)
  4                          FROM EMP
  5                               WHERE E1.ROWID);
```

Q - 8) What is Normalization and what are the advantages of it?

Normalization is the process of splitting the bigger table into many small tables without changing its functionality. It is generally carried out during the design phase of SDLC.

STEPS IN NORMALIZATION

1) 1NF – 1st Normal form
2) 2NF – 2nd Normal form
3) 3NF – 3rd Normal form

1NF

We should collect all the required attributes into 1 or more bigger entities.

We have to assume no 2 records are same (i.e, records should not be duplicated)

2NF

The tables have to be in 1NF -

Here, we identify all the complete dependencies and move them separately into different tables.

3NF

The table will have to be in 2NF Here,

we identify all the partial dependencies and move such columns to a separate table.

Advantages

1) it reduces the redundancy (unnecessary repeatation of data)
2) avoids problem due to delete anamoly (inconsistency)

Disadvantage of Normalization

The only minor disadvantage is we may have to write complex queries as we have more number of tables to be accessed.

Q - 9) How many Aggregate functions are available in SQL? . What is the default ordering of data using the ORDER BY clause? How could it be changed?

We have 5 GROUP functions,

1) Sum
2) Max
3) Min
4) Avg
5) Count

Sum – returns total value

Max – returns maximum value

Min – returns minimum value

Avg – returns average value

Count – returns number of record(S) AND Column(S)

Ex – 1) display the maximum salary, minimum salary and total salary from employee

```
SQL>SELECT MAX(SAL),MIN(SAL),SUM(SAL)
     FROM EMP;
```

MAX(SAL) MIN(SAL) SUM(SAL)

5000 8000 29025

SORTING It arranges the data either in ascending / descending order Ascending – ASC / Descending – DESC We can sort the data using ORDER BY

Q - 10) What are the data types allowed in a table?

data types allowed in a table are;

CHAR(SIZE),

VARCHAR2(SIZE),

NUMBER(PRECISION,SCALE),

DATE,

RAW,

LONG

LONG RAW.

BLOB

CLOB

Q - 11) What are various Oracle Operator?

The Symbols which are performing the operations in know as operators(+,-,*,/)

Different type operators in sql: Unary operators:- Operates on one operand. Binary:- Operates on two operands. Arithmetic operators:- Used to perform basic arithmetic operations like addition, subtraction etc. they are listed below: • + - - spcifices positive or negative expression. They are unary operators. • */- spcifices multiplication or division. They are binary operators. • ||- Concatenates strings(words) • =, !=. <, >, <=, >= are all comparison operators. • OR, AND, NOT are all logical operators

Example:

——write a query to display all the detalis of the employees working as manager in deptno 30; sql>SELECT *

```
FROM emp
WHERE job = 'MANAGER' AND deptno = 30;
```

Q - 12) What is database?

A database is a collection of data that is organized so that its contents can easily be accessed, managed and updated. another definition is A collection of information organized in such a way that acomputer program can quickly select desired pieces of data. You can think of a database as an electronic filing system.

Q - 13) WHAT IS FOREIGN KEY

FOREIGN KEY : "It is used to establish a connection between the Tables" Characteristics of Foreign key: We can have only Multiple FK in a table FK can accept duplicate / repeated values. FK can accept Null FK is not a combination of Unique and Not Null Constraint. For an Attribute (column) to become a FK ,it is mandatory That it must be a PK in its own table.

DIFFERENCE BETWEEN PRIMARY KEY AND FOREIGN KEY

PRIMARY KEY FOREIGN KEY It is used to identify a records Uniquely from the table. It is used to establish a connection Between the tables It is always a combination of Not Null and Unique constraint It is not a combination of Not Null and Unique constraint We can have only 1 PK in a table We can have Multiple FK in a table

Q - 14) What is a Primary key?

PRIMARY KEY: “It is a constraint which is used to identify a record uniquely from the table”.

Characteristics of Primary key: We can have only 1 PK in a table. PK cannot accept duplicate / repeated values. PK cannot accept Null

PK is always a combination of Unique and Not Null Constraint

Q - 15) How many columns can table have

WE CREATE COLUMN(S)/WE CAN ADD COLUMN(S) UPTO 1 TO 1000 IN A SINGLE TABLE

Q - 16) WHAT ARE THE ORACLE SQL STATEMENTS

a) Data Definition Language(DDL) :: The DDL statements define and maintain objects and drop objects.

CREATE

RENAME

ALTER

DROP

TRUNCATE

b) Data Manipulation Language(DML) :: The DML statements manipulate database data.

INSERT

UPDATE

DELETE c) Transaction Control Language(TCL):: Manage change by DML

COMMIT

ROLLBACK

SAVE POINT

e) Data Control Language(DCL) : Change Properties of Oracle Instance GRANT

REVOKE

f)DATA QUERY LANGUAGE(DQL):Display the table values/data in the database.

SELECT

PROJECTION

SELECTION

JOINS

Q - 17) FIND MAXIMUM AND MINIMUM SALARY BY USING N-1 METHOD JOINS

MAXIMUM SALARY

```
SQL>SELECT A.SAL
       FROM EMP A
       WHERE (SELECT COUNT(DISTINCT B. SAL)
                           FROM EMP B
                           WHERE (A.SAL>B.SAL)=N-1;
```

MINIMUM SALARY

```
SQL>SELECT A.SAL
       FROM EMP A
       WHERE (SELECT COUNT(DISTINCT B. SAL)
                           FROM EMP B
                           WHERE  (A.SAL<B.SAL)=N-1;
```


Q - 18) what is sub Query

A QUERY WRITTEN INSIDE THE ANOTHER QUERY IS KNOW AS SUB QUERY”

write a query names of the employees earning less than MILLER.

SELECT ENAME FROM EMP WHERE SAL < (SELECT SAL FROM EMP WHERE ENAME = ‘MILLER’);

Q - 19) WHAT IS GROP BY CLAUSE ?

GROP BY CLAUSE It is the process of computing the aggregates by segregating based on one or more columns. Grouping is done by using 'group by' clause.

Display the total salary of all employee department

SQL>SELECT SUM(SAL).DEPTNO

```
  2 FROM EMP

  3 GROUP BY DEPTNO;
```

Q - 20) What is IN operator?

IN Operator is Special Operator .IN operator multiple valued operator in WHERE clause. Example: to return records of employees working as salesman or manager.

SQL> select *

```
  2 From emp

   3 where job IN ('SALESMAN,'MANAGER);
```

Q - 21) WHAT IS DIFFERENCE BETWEEN THE DELETE ,DROP, TRUNCATE STATEMENTS IN SQL

TRUNCATE: "IT IS USED TO REMOVE ALL THE RECORDS FROM THE TABLE PREMANENTLY WITHOUT DISTURBING THE STRUCTURE OF THE TABLE" "We want to delete the data inside table permanently than we use Truncate"

SYNTAX:- TRUNCATE TABLE Table_Name;

DROP: "IT IS USED TO REMOVE THE TABLE FROM THE DATABASE"
"IT REMOVES BOTH DATA AND THE STRUCTURE OF THE TABLE PERMANENTLY FROM THE DATABASE."

SYNTAX : DROP TABLE Table_Name;

DELETE: It is used to remove a particular record from the table.

Syntax: DELETE FROM Table Name [WHERE COLUMN_NAME OPERATOR 'DATA/VALUE'];

Q - 22) Explain ROWID in oracle. ?

ROWID in oracle is a pseudo column. It is used to uniquely identify a row with a table. ROWID values are used to locate necessary information to locate a row. Example:

Query selects address of all rows that contain data for emp.

SQL> SELECT ROWID, ENAME

```
  2    FROM EMP;
```

Q - 23) EXPLAIN ABOUT ALTER STATEMENT IN SQL

ALTER:

" IS USED TO MODIFY THE STRUCTURE OF THE TABLE AFTER CREATATION"

TO ADD AN COLUMN_AFTER CREATATION OF THE TABLE

```
  SQL>ALTER TABLE Table_Name ADD Column_Name Datatype Constraint_type;
```

TO DROP A COLUMN AFTER CREATATION OF THE TABLE

```
  SQL>ALTER TABLE Table_Name  DROP COLUMN Column_Name;
```

TO RENAME AN COLUMN_AFTER CREATATION OF THE TABLE

```
  SQL>ALTER TABLE Table_Name  RENAME COLUMN Column_Name TO
new_Column_Name;
```

TO MODIFY THE DATATYPE AN COLUMN_AFTER CREATATION OF THE TABLE

```
    SQL>ALTER TABLE Table_Name MODIFY COLUMN_NAME New_Datatype;
```

TO MODIFY NOT NULL CONSTRAINTS AFTER CREATATION OF THE TABLE:

```
     SQL>ALTER TABLE Table_Name MODIFY COLUMN_NAME Existing_datatype
[NULL]/NOT NULL;
```

TO ADD FOREIGN KEY ESTABLISH CONNECTION BETWEEN THE MULTIPLE_TABLE AFTER CREATATION OF THE TABLE

——-

```
   SQL>ALTER TABLE Child_Table_Name  Add Froeign_key (column name)
references parent_table_name (column_name);
```

Q - 24) CREATE TWO TABLES ESTABLISH CONNECTION BETWEEN THE TABLES AND INSERT VALUES IN THE TABLES

————————CREATING TABLE DEPT

Create table DEPT

(

DEPTNO number (2) PRIMARY KEY,

DNAME varchar2 (14),

LOC varchar2 (13)

)

————INSERTING THE VALUES DEPT TABLE

INSERT INTO DEPT VALUES (10,‘ACCOUNTING’,‘NEW YORK’);

INSERT INTO DEPT VALUES (20,‘RESEARCH’,‘DALLAS’);

INSERT INTO DEPT VALUES (30,‘SALES’,‘CHICAGO’);

INSERT INTO DEPT VALUES (40,‘OPERATION’,‘BOSTON’)

————CREATING TABLE EMP

CREATE TABLE EMP(EMPNO NUMBER (4) PRIMARY KEY,ENAME VARCHAR (10),JOB VARCHAR (9),MGR NUMBER (4),HIREDATE DATE,SAL NUMBER (7, 2),COMM NUMBER (72),DEPTNO NUMBER (2),CONSTRAINT F_EMP foreign key (DEPTNO) references DEPT (DEPTNO));

————–INSERTING THE VALUES IN EMP TABLE

INSERT INTO EMP VALUES(7369, ‘SMITH’, ‘CLERK’, 7902, ‘17-DEC-1980’, 800, NULL, 20);

INSERT INTO EMP VALUES(7499, ‘ALLEN’, ‘SALESMAN’, 7698, ‘20-FEB-1981’, 1600, 300, 30);

INSERT INTO EMP VALUES(7521, ‘WARD’, ‘SALESMAN’, 7698, ‘22-FEB-1981’, 1250, 500, 30);

INSERT INTO EMP VALUES(7566, ‘JONES’, ‘MANAGER’, 7839, ‘2-APR-1981’, 2975, NULL, 20);

INSERT INTO EMP VALUES(7654, ‘MARTIN’, ‘SALESMAN’, 7698, ‘28-SEP-1981’, 1250, 1400, 30);

INSERT INTO EMP VALUES(7698, ‘BLAKE’, ‘MANAGER’, 7839, ‘1-MAY-1981’, 2850, NULL, 30);

INSERT INTO EMP VALUES(7782, ‘CLARK’, ‘MANAGER’, 7839, ‘9-JUN-1981’, 2450, NULL, 10);

INSERT INTO EMP VALUES(7788, ‘SCOTT’, ‘ANALYST’, 7566, ‘09-DEC-1982’, 3000, NULL, 20);

INSERT INTO EMP VALUES(7839, ‘KING’, ‘PRESIDENT’, NULL, ‘17-NOV-1981’, 5000, NULL, 10);

INSERT INTO EMP VALUES(7844, ‘TURNER’, ‘SALESMAN’, 7698, ‘8-SEP-1981’, 1500, 0, 30);

INSERT INTO EMP VALUES(7876, ‘ADAMS’, ‘CLERK’, 7788, ‘12-JAN-1983’, 1100, NULL, 20);

INSERT INTO EMP VALUES(7900, ‘JAMES’, ‘CLERK’, 7698, ‘3-DEC-1981’, 950, NULL, 30);

INSERT INTO EMP VALUES(7902, ‘FORD’, ‘ANALYST’, 7566, ‘3-DEC-1981’, 3000, NULL, 20);

INSERT INTO EMP VALUES(7934, 'MILLER', 'CLERK', 7782, '23-JAN-1982', 1300, NULL, 10);

Q - 25) WHAT ARE JOINS IN SQL

JOINS

```
 "The process of retrieval of data from multiple tables  At a time is known as JOINS ".
```

TYPES OF JOINS

CARTESIAN JOIN / CROSS JOIN INNER JOIN / EQUI JOIN OUTER JOIN——->LEFT OUTER JOIN, RIGHT OUTER JOIN, FULL OUTER JOIN SELF JOIN NATURAL JOIN.

CARTESIAN JOIN / CROSS JOIN

"Here, each and every record of the 1st table will combine with each and every record of the 2nd table. If a table A is having 10 records & B is having 4 records – the Cartesian join will return 10*4 = 40 record

---

INNER JOIN / EQUI JOIN

```
    "Inner join are also called as equijoins. They return the matching records between the tables."

     JOIN CONDITION;

     TABLE_NAME1.COLUMN_NAME =TABLE_NAME2.COLUMN_NAME;'
```

```
       LEFT OUTER JOIN

       "Left Outer Join Is Used to obtain/Return unmatched record from left table. With matching records."

         ANSI [ American National Standard Institute

             SQL> SELECT Column_Name

                 2  FROM Table_Name1 LEFT [OUTER] JOIN Table_Name2

                 3  ON TABLE_NAME1.COLUMN_NAME =TABLE_NAME2.COLUMN_NAME;

             ORACLE Syntax

                  SQL>SELECT Column_Name
```

```
                2   FROM Table_Name1 , Table_Name2

                3  WHERE Table1.Col_Name = Table2.Col_Name (+);
```

RIGHT OUTER JOIN

"It is used to obtain Un-Matched Records of Right Table Along with Matching Records".

ANSI [American National Standard Institute]

```
SQL>SELECT Column_Name

  2 FROM Table_Name1 RIGHT[OUTER] JOIN Table_Name2

  3 ON TABLE_NAME1.COLUMN_NAME =TABLE_NAME2.COLUMN_NAME;
```

Oracle Syntax

```
SQL>SELECT Column_Name

2  FROM Table_Name1 , Table_Name2

3  WHERE Table1.Col_Name (+) = Table2.Col_Name;
```

Full outer join

"It is used to obtain Un-Matched Records of both Left & Right Table Along with Matching Records ".

ANSI [American National Standard Institute]

```
SQL>SELECT Column_Name

  2 FROM Table_Name1 FULL [OUTER] JOIN Table_Name2

  3 ON able1.Col_Name = Table2.Col_Name;
```

SELF JOIN

"Joining a table to itself is called self join"

```
              NATURAL JOIN

                  "It behaves as INNER JOIN if there is a relation
between the given  two tables , else it behaves as CROSS JOIN"
```

Q - 26) Write a query that selects the top 10 customers by sales:

```
SQL>SELECT *
  2  FROM (SELECT customer_id, total_sales
  3                       FROM sales_totals
  4                               ORDER BY total_sales DESC)
   5                                          WHERE rownum <= 10;
```

Q - 27) Query that joins three tables:

```
SQL>SELECT *
 2   FROM orders o  JOIN customers c
3   ON o.customer_id = c.customer_id JOIN products p  ON o.product_id
= p.product_id;
```

Q - 28) What is a view in SQL? How to create one

A view is a virtual table based on the result-set of an SQL statement.

We can create using create view

syntax.

```
SQL>CREATE VIEW view_name AS SELECT column_name(s)
2  FROM table_name
3   WHERE Column_Name Operator 'Data/Value';
```

Q - 29) What is a transaction? What are ACID properties?

A Database Transaction is a set of database operations that must be treated as whole, means either all operations are executed or none of them.

An example can be bank transaction from one account to another account.

Either both debit and credit operations must be executed or none of them

ACID (Atomicity, Consistency, Isolation, Durability) is a set of properties that guarantee that database transactions are processed reliably.

Q - 30) What are indexes?

A database index is a data structure that improves the speed of data retrieval operations on a database table At the cost of additional writes and the use of more storage space to maintain the extra copy of data. Data can be stored only in one order on disk. To support faster access according to different values, faster search like binary search for different values is desired, For this purpose, indexes are created on tables. These indexes need extra space on disk, but they allow faster search according to different frequently searched values

Q - 31) What are properties of a transaction?

Properties of the transaction can be summarized as ACID Properties.

1. Atomicity A transaction consists of many steps. When all the steps in a transaction gets completed,

   It will get reflected in DB or if any step fails, all the transactions are rolled back.

2. Consistency The database will move from one consistent state to another, if the transaction succeeds and remain in the original state, if the transaction fails.

3. Isolation Every transaction should operate as if it is the only transaction in the system

4. Durability Once a transaction has completed successfully, the updated rows/records must be available for all other transactions on a permanent basis

Q - 32) What is a Composite Key, Unique Key

```
Composite Key

---------------------
```

A Composite primary key is a type of candidate key, which represents a set of columns whose values uniquely identify every row in a table.

For example -

if “Employee_ID” and “Employee Name” in a table is combined to uniquely identifies a row its called a Composite Key.

Unique key

Unique Key is same as primary with difference being existence of null. Unique key field allows one value as NULL value.

Q - 33) What are wild cards used in database for Pattern Matching

SQL Like operator is user for pattern matching. SQL 'Like' command takes more time to process.

So before using like operator,

consider suggestions given below on when and where to use wild card search.

1) Don't overuse wild cards. If another search operator will do, use it instead.

2) When you do use wild cards, try not to use them at the beginning of the search pattern, unless absolutely necessary. Search patterns that begin with wild cards are the slowest to process.

3) Pay careful attention to the placement of the wild card symbols. If they are misplaced, you might not return the data you intended

Q - 34) What is a materialized view

Materialized views is also a view but are disk based. Materialized views get updated on specific duration, base upon the interval specified in the query definition. We can index materialized view.

Q - 35) What is Union, minus and Interact commands

MINUS operator is used to return rows from the first query but not from the second query. INTERSECT operator is used to return rows returned by both the queries.

Q - 36) How do you implement one-to-one, one-to-many and many-to-many relationships while designing tables?

One-to-One relationship can be implemented as a single table and rarely as two tables with primary and foreign key relationships. One-to-Many relationships are implemented by splitting the data into two tables with primary key and foreign key relationships. Many-to-Many relationships are implemented using a junction table with the keys from both the tables forming the composite primary key of the junction table

Q - 37) What are defaults? Is there a column to which a default can't be bound

A default is a value that will be used by a column,

If no value is supplied to that column while inserting data.

IDENTITY columns and timestamp columns can't have defaults bound to them.

See CREATE DEFUALT in books online.

Q - 38) Explain different isolation levels

An isolation level determines the degree of isolation of data between concurrent transactions. The default SQL Server isolation level is Read Committed. Here are the other isolation levels (in the ascending order of isolation): Read Uncommitted, Read Committed, Repeatable Read, Serializable. Books online for an explanation of the isolation levels. Be sure to read about SET TRANSACTION ISOLATION LEVEL,

which lets you customize the isolation level at the connection level

Q - 39) What is a self join? Explain it with an example

Self join is just like any other join, except that two instances of the same table will be joined in the query.

Here is an example:

Employees table which contains rows for normal employees as well as managers. So, to find out the managers of all the employees, you need a self join. SQL>CREATE TABLE emp (empid int, mgrid int, empname char(10));

```
   SQL> INSERT emp SELECT 1,2,'Vyas' INSERT emp SELECT 2,3,'Mohan'

   SQL>INSERT emp SELECT 3,NULL,'Shobha' ;

   SQL>INSERT emp SELECT 4,2,'Shridhar';

   SQL>INSERT emp SELECT 5,2,'Sourabh';
```

SQL>SELECT t1.empname [Employee], t2.empname [Manager]

```
  2 FROM emp t1, emp t2 WHERE t1.mgrid = t2.empid ;



  ----- Here's an advanced query using a LEFT OUTER JOIN that even
returns the employees without managers (super bosses)
```


Q - 40) What is De-normalization?

De-normalization is the process of attempting to optimize the performance of a database by adding redundant data. It is sometimes necessary because current DBMSs implement the relational model poorly. A true relational DBMS would allow for a fully normalized database at the logical level, while providing physical storage of data that is tuned for high performance. De-normalization is a technique to move from higher to lower normal forms of database modeling in order to speed up database access

Q - 41) What is RDBMS?

Relational Data Base Management Systems (RDBMS) are database management systems that maintain data records and indices in tables. Relationships may be created and maintained across and among the data and tables. In a relational database relationships between data items are expressed by means of tables. Interdependencies among these tables are expressed by data values rather than by pointers. This allows a high degree of data independence. An RDBMS has the capability to recombine the data items from different files, providing powerful tools for data usage Relational tables have six properties:

1. Values are atomic.
2. Column values are of the same kind.
3. Each row is unique.
4. The sequence of columns is insignificant.
5. The sequence of rows is insignificant.
6. Each column must have a unique name.

Q - 42) What is OLTP (Online Transaction Processing)

In OLTP - online transaction processing systems relational database design use the discipline of data modeling and generally follow the Codd rules of data Normalization in order to ensure absolute data integrity. Using these rules complex information is broken down into its most simple structures (a table) where all of the individual atomic level elements relate to each other and satisfy the normalization rules.

Q - 43) To fetch ALTERNATE records from a table. (EVEN NUMBERED)

SQL>select *

2 from emp

3 where rowid in (select decode(mod(rownum,2),0,rowid, null) from emp);

Q - 44) To select ALTERNATE records from a table. (ODD NUMBERED)

SQL>select *

```
  2  from emp

  3  where rowid in (select decode(mod(rownum,2),0,null ,rowid) from
emp);
```

Q - 45) Count the totalsa deptno wise where more than 2 employees exist.

SQL>SELECT deptno, sum(sal) As totalsal

2 FROM emp

3 GROUP BY deptno

4 HAVING COUNT(empno) > 2;

Q - 46) What are the Advantages of SQL?

1. SQL is not a proprietary language used by specific database vendors. Almost every major DBMS supports SQL,

   so learning this one language will enable programmer to interact with any database like ORACLE, SQL LITE ,MYSQL etc.

2. SQL is easy to learn. The statements are all made up of descriptive English words, and there aren't that many of them.

3. SQL is actually a very powerful language and by using its language elements you can perform very complex and sophisticated database operations

Q - 47) What are the properties and different Types of Sub-Queries

1. Properties of Sub-Query

```
    1. A sub-query must be enclosed in the parenthesis.

    2. A sub-query must be put in the right hand of the
comparison operator, and

    3. A sub-query cannot contain an ORDER-BY clause.

    4. A query can contain more than one sub-query
```

2. Types of Sub-Query

```
   1. Single-row sub-query, where the sub-query returns only one
row.

   2. Multiple-row sub-query, where the sub-query returns
multiple rows,. and

   3. Multiple column sub-query, where the sub-query returns
multiple columns
```

Q - 48) How to delete duplicate rows in a table?

SQL>Delete from emp a where rowid NOT IN (select max(rowid)

```
2
From emp b
```

```
3
where a.empno=b.empno);
```

Q - 49) How can I create an empty table emp1 with same structure as emp

SQL>Create table emp1 as select * from emp where 1=2;

Q - 50) If there are two tables emp1 and emp2, and both have common record. How can I fetch all the recods but common records only once

SQL>(Select * from emp) Union (Select * from emp1);

Q - 51) Types of Triggers

Triggers can be classified into three categories:

Level Triggers Event Triggers Timing Triggers Level Triggers There are 2 different types of level triggers, they are:

ROW LEVEL TRIGGERS It fires for every record that got affected with the execution of DML statements like INSERT, UPDATE, DELETE etc. It always use a FOR EACH ROW clause in a triggering statement. STATEMENT LEVEL TRIGGERS

It fires once for each statement that is executed Event Triggers

There are 3 different types of event triggers, they are:

DDL EVENT TRIGGER

It fires with the execution of every DDL statement(CREATE, ALTER, DROP, TRUNCATE). DML EVENT TRIGGER

It fires with the execution of every DML statement(INSERT, UPDATE, DELETE). DATABASE EVENT TRIGGER

It fires with the execution of every database operation which can be LOGON, LOGOFF, SHUTDOWN, SERVERERROR etc. Timing Triggers

There are 2 different types of timing triggers, they are: BEFORE TRIGGER

It fires before executing DML statement. Triggering statement may or may not executed depending upon the before condition block. AFTER TRIGGER

It fires after executing DML statement.

Q - 52) What is the difference between a procedure and a package in PL/SQL

Procedure: A single PL/SQL block that performs a specific task. It does not return a value and is used for executing a particular action or set of actions.

Package: A collection of related procedures, functions, variables, and cursors grouped together. Packages provide modularity, encapsulation, and reusability, and allow for more complex and organized code structures.

Q - 53) write a to print the pattern in pl/sql

1 23 456 78910 1112131415

DECLARE V NUMBER := 0; BEGIN FOR i IN 1..5 LOOP FOR j IN 1..i LOOP V := V + 1; dbms_output.put(V); END LOOP; dbms_output.put_line(''); END LOOP; END; /

Q - 54) What is the default mode of parameters in PL/SQL

A) IN

B) OUT

C) IN OUT

D) NONE

Answer: A) IN

https://www.youtube.com/@codewitharrays

https://www.instagram.com/codewitharrays/

https://t.me/codewitharrays Group Link: https://t.me/ccee2025notes

+91 8007592194 +91 9284926333

codewitharrays@gmail.com

https://codewitharrays.in/project