Business Analyst SQL Interview Question

Technical Coding Test

Q1.Students and Examinations –

Solve:

```
SELECT sub.subject_name, COUNT(s.student_id) AS enrollment_count
FROM students s
JOIN subjects sub ON s.subject_id = sub.subject_id
GROUP BY sub.subject_name
HAVING enrollment_count = (
  SELECT MAX(enroll_count) FROM (
    SELECT COUNT(student_id) AS enroll_count
    FROM students
    GROUP BY subject_id
  ) AS counts
)
ORDER BY sub.subject_name;
```

Q2. Employee Salaries:

Solve:

```
SELECT NAME
  FROM EMPLOYEE
  WHERE SALARY > 2000 AND MONTHS < 10
  ORDER BY EMPLOYEE_ID;
```

Business Analyst SQL Interview Question

Hiring Manager Interview

1. **What do you know about our company?**
   A: Company details

2. **Tell me about your project and your skills that you have applied in your projects?**
   A: Project that have you done

3. **What do you mean by Store Procedure?**
   A: **Store Procedure** is Save Task in the database that can run anytime by name.

4. **Difference Between DDL and DML?**
   A: **DDL –** Data Definition Language which means defining the structure while using CREATE, ALTER, DROP, TRUNCATE, RENAME.
   DML – Data Manipulate language which means changing the data while using INSERT, UPDATE, DELETE, MERAGE, LOCK.

5. **Difference Between Delete and Truncate?**
   A: **Delete** – we can remove in specific row, whereas
   Truncate – we can remove all rows quickly.

Business Analyst SQL Interview Question

Technical Interviews(F2F)

Q1. Find the result Count the duplicate number by using Inner Join, Count the number for city id by using Left join, Count the number of city id removing duplicate values by using right joint.

```
-- CREATE THE TABLE 1--

CREATE TABLE table1 (

   city_id INT PRIMARY KEY,

   city_name VARCHAR(50)

);

-- INSERT THE CITY INFORMATION FOR TABLE 1--

INSERT INTO table1 (city_id, city_name) VALUES

(1, 'Mumbai'),

(2, 'Delhi'),

(3, 'Kolkata'),

(4, 'Chennai'),

(5, 'Bangalore'),

(6, 'Punjab'),

(7, 'Gujarat'),

(8, 'Kerala');


-- CREATE TABLE 2--

CREATE TABLE table2 (

id INT,

city_id INT
```

Business Analyst SQL Interview Question

```
);

-- INSERT THE DATA TABLE 2 --

INSERT INTO table2 (id, city_id)

VALUES

(1, 1),

(2, 2),

(3, 3),

(1, 4),

(4, 3),

(2, 7),

(5, 4),

(3, 9),

(1, 10),

(4, NULL),

(2, 4),

(1, 5),

(3, 2),

(6, 7),

(2, 8);

Select *

From table2
```

Business Analyst SQL Interview Question

Left Table

	city_id [PK] integer	city_name character varying (50)
1	1	Mumbai
2	2	Delhi
3	3	Kolkata
4	4	Chennai
5	5	Bangalore
6	6	Punjab
7	7	Gujarat
8	8	Kerala

Right Table

	id integer	city_id integer
1	1	1
2	2	2
3	3	3
4	1	4
5	4	3
6	2	7
7	5	4
8	3	9
9	1	10
10	4	[null]
11	2	4
12	1	5
13	3	2
14	6	7
15	2	8

Business Analyst SQL Interview Question

Query: Inner Join Query:

```
SELECT r.id, r.city_id, l.city_name
FROM right table r
INNER JOIN left l ON r.city_id = l.city_id;
```

	city_id [PK] integer	city_name character varying (50)
1	8	Kerala
2	5	Bangalore
3	1	Mumbai

Query: Count the number for city_id using Left join

```
SELECT COUNT(t2.city_id) AS total_city_ids_in_left_join
FROM table2 t2
LEFT JOIN table1 t1 ON t2.city_id = t1.city_id;
```

	total_city_ids_in_left_join bigint
1	14

Business Analyst SQL Interview Question

Query: Count the number of city id removing duplicate values by using right joint.

```
SELECT COUNT(DISTINCT t2.city_id) AS unique_city_ids_in_right_join
FROM table2 t2
RIGHT JOIN table1 t1 ON t2.city_id = t1.city_id;
```

	unique_city_ids_in_right_join bigint
1	7

Q2. Select Top 1 City_ID + '@' + City_Name FROM CityInfo. What will be the value.

Ans:

SQL Server -

```
SELECT TOP 1 City_ID + '@' + City_Name AS Result
FROM table1
ORDER BY City_ID;
```

Using PostgreSQL or MySQL -

```
SELECT CONCAT(City_ID, '@', City_Name) AS Result
FROM table1
ORDER BY City_ID
LIMIT 1;
```

	result text
1	1@Mumbai

Business Analyst SQL Interview Question

Q3. Can you identify the mistakes in this query and provide the corrected query?

```
SELECT *
FROM Student
WHERE GPA IN 9.00 AND 9.99;
```

Ans:

Corrected Query -

```
SELECT *
FROM Student
WHERE GPA BETWEEN 9.00 AND 9.99;
```

Or

Alternative Using Comparison Operators:

```
SELECT *
FROM Student
WHERE GPA >= 9.00 AND GPA <= 9.99;
```

Or

Syntax Using IN

```
SELECT *
FROM Student
WHERE GPA IN (9.00, 9.99);
```

Q4. Difference Between Primary Key and Unique Key.

Ans: Primary Key - Uniquely identifies each record in a table. It can be **NOT NULL**; it only **one** primary key in a table, whereas

Unique Key - Ensures that all values in a column are different. It can be **Null or Not Null** value; it can have **multiple** unique keys in a table.

Q5. Difference Between Union and Union ALL.

Ans: Union - Removes **duplicate** rows, and it slower, as it checks for duplicates, whereas

Union ALL - Keeps **all rows**, including duplicates, and it faster, as it does not check duplicates.

Business Analyst SQL Interview Question

Q6. What do you mean by wildcard SQL.

Ans: A wildcard in SQL is a special character used with the LIKE operator to search for patterns in text data.

Common SQL Wildcards:

% - Represents zero or more characters.

_ - Represents a single character.

[] - Matches any single character inside brackets.

[^] - Matches any single character NOT in brackets

Q7. How many times can a unique key be used in a table?

Ans:

- Multiple unique keys are allowed in a table.
- Each unique key enforces uniqueness on a column or combination of columns.

Q8. What is the difference between DELETE, TRUNCATE, and DROP commands in SQL, and which of these operations can be rolled back?

A: In Delete we can remove the specific rows, whereas Truncate will remove all rows quickly and Drop will remove the entire table structure along with all its data.

Delete can be rollback, but truncate we can't be rollback.