SQL TIPS AND TRICKS

PART 32

Interview Question
10 Different Methods of Solution

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Sample Example-

```sql
8    -- method 1
9  ● ⊖ WITH cte AS (
10     SELECT student_id, COUNT(*) AS total_skills,
11     COUNT(CASE WHEN skill IN ('sql','python') THEN skill ELSE null END) AS st_skills
12     FROM students
13     GROUP BY student_id
14     )
15     SELECT * FROM cte
16     WHERE total_skills = 2 AND st_skills = 2;
```

	student_id	total_skills	st_skills
▶	3	2	2

Result Grid | Filter Rows: | Export: | Wrap Cell Content: ‡A

```sql
      -- method 2
18
19 •   SELECT student_id, COUNT(*) AS total_skills,
20      COUNT(CASE WHEN skill IN ('sql','python') THEN skill ELSE null END) AS st_skills
21      FROM students
22      GROUP BY student_id
23      HAVING COUNT(*) = 2 AND COUNT(CASE WHEN skill IN ('sql','python') THEN skill ELSE null END) = 2;
```

| | Result Grid | | Filter Rows: | | Export: | Wrap Cell Content: |

	student_id	total_skills	st_skills
▶	3	2	2

```sql
25      -- method 3
26 •    SELECT student_id, COUNT(*) AS total_skills,
27      COUNT(CASE WHEN skill IN ('sql','python') THEN skill ELSE null END) AS st_skills,
28      COUNT(CASE WHEN skill NOT IN ('sql','python') THEN skill ELSE null END) AS stn_skills
29      FROM students
30      GROUP BY student_id
31      HAVING COUNT(*) = 2 AND COUNT(CASE WHEN skill NOT IN ('sql','python') THEN skill ELSE null END) = 0;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

student_id	total_skills	st_skills	stn_skills
3	2	2	0

```
33     -- method 4
34  •  SELECT student_id, COUNT(*) AS total_skills
35     FROM students
36     WHERE student_id NOT IN (SELECT student_id FROM students WHERE skill NOT IN ('sql','python'))
37     GROUP BY student_id
38     HAVING COUNT(*) = 2;
39
40
```

	student_id	total_skills
▶	3	2

Result Grid | Filter Rows: | Export: | Wrap Cell Content: 𝐈𝐀

```sql
40      -- method 5
41 ●    SELECT student_id
42      FROM students
43      GROUP BY student_id
44      HAVING COUNT(*) = 2
45 ❌   EXCEPT -- /MINUS
46      SELECT student_id
47      FROM students
48      WHERE skill NOT IN ('sql','python');
49
```

	student_id
▶	3

```sql
50      -- method 6
51  •   SELECT student_id, COUNT(*) AS total_skills
52      FROM students s1
53  ⊖   WHERE NOT EXISTS (SELECT 1 FROM students s2 WHERE s2.skill NOT IN ('sql','python') AND
54                                              s1.student_id=s2.student_id)
55      GROUP BY student_id
56      HAVING COUNT(*) = 2;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

student_id	total_skills
3	2

```sql
58      -- method 7
59 •    WITH ctesql AS (SELECT * FROM students WHERE skill = 'sql'),
60      python AS (SELECT * FROM students WHERE skill = 'python'),
61      other AS (SELECT * FROM students WHERE skill NOT IN ('sql', 'python'))
62      SELECT s.*,o.*
63      FROM ctesql s
64      INNER JOIN python p ON s.student_id = p.student_id
65      LEFT JOIN other o ON s.student_id = o.student_id
66      WHERE o.student_id IS null
67
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: ‡A

student_id	skill	student_id	skill
3	sql	NULL	NULL

```sql
-- method 8
SELECT s.*,o.*
FROM students s
INNER JOIN students p ON s.student_id = p.student_id
LEFT JOIN students o ON s.student_id = o.student_id AND
                        o.skill NOT IN ('sql','python')
WHERE s.skill = 'sql' AND p.skill = 'python' AND  o.student_id IS null;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: |

student_id	skill	student_id	skill
3	sql	NULL	NULL

```sql
-- method 9
WITH ctesql AS (SELECT * FROM students WHERE skill = 'sql'),
python AS (SELECT * FROM students WHERE skill = 'python'),
other AS (SELECT * FROM students WHERE skill NOT IN ('sql', 'python'))
SELECT student_id
FROM ctesql
INTERSECT
SELECT student_id
FROM python
EXCEPT
SELECT student_id FROM other;
```

	student_id
▶	3

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

```sql
     -- method 10
WITH cte AS (
    SELECT student_id,
    SUM(CASE WHEN skill IN ('sql','python') THEN 1 ELSE 5 END) AS st_skills
    FROM students
    GROUP BY student_id
    )
    SELECT * FROM cte
    WHERE st_skills = 2;
```

	student_id	st_skills
▶	3	2

THANK YOU

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