

SQL Solution:

1. What will be the result of the query below?

```
SELECT * FROM runners WHERE id NOT IN (SELECT winner_id FROM races)
```

Explain your answer and also provide an alternative version of this query that will avoid the issue that it exposes.

Solution:

The above query will return the runners who didn't win any races. The alternate method we can use is 'NOT EXISTS' which avoids potential issues with null values.

```
SELECT * FROM runners WHERE NOT EXISTS(SELECT * FROM races WHERE  
races.winner_id = runners.id);
```

2. We can use left join and is null condition to get the result without using not keyword

```
SELECT a.* FROM table_a AS a LEFT JOIN table_b AS b ON a.id = b.id WHERE b.id IS  
NULL
```
3.

```
SELECT username, training_date FROM users AS u INNER JOIN training_details AS t  
ON(u.user_id = t.user_id) GROUP BY username, training_date HAVING COUNT(*) > 1  
ORDER BY username, training_date DESC
```
4.

```
SELECT E2.emp_id, E2.emp_name, AVG(E1.salary) FROM MANAGER_EMP AS E1  
INNER JOIN MANAGER_EMP AS E2 ON E1.manager_id = E2.emp_id GROUP BY  
E2.emp_id, E2.emp_name
```