

## Re: TRICKY SQL

**Source:**

<http://www.tech-archive.net/Archive/SQL-Server/microsoft.public.sqlserver.programming/2005-01/2335.html>

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**From:** MS User (*sqlman\_at\_sql.com*)

**Date:** 01/12/05

Date: Wed, 12 Jan 2005 17:25:59 -0600

Thanks Hugo and everyone who helped me in solving this issue.

Joe

"Hugo Kornelis" <hugo@pe\_NO\_rFact.in\_SPAM\_fo> wrote in message news:i02bu0p03djc83pe5prvn6lce56k5iplq@4ax.com...

> On Wed, 12 Jan 2005 10:14:37 -0600, MS User wrote:

>

>>Sorry...

>>I will explain with some sample data, before that a little note

> (snip)

>

> Hi Joe,

>

> Unless I am (still) misunderstanding your explanations, the tricky part of  
> your question is not the query, but the table design.

>

> You're missing an important attribute in your model: a number (or other  
> identifier) to distinguish between the first, second, etc trip of a given  
> car. In your model, the only way to find if these two rows:

> CarNum MoveType MoveDate

> 1 B 20040110

> 1 D 20040203

> belong to the same trip, is to use subqueries to find if there is also a

> row for car 1 and move type A with a date between 20040110 and 20040203.

> This is not efficient. A better table structure would be:

>

> CREATE TABLE ImprovedCarMovements

> (CarNum int NOT NULL,

> MoveNo int NOT NULL,

> MoveType char(1) NOT NULL,

> MoveDate smalldatetime,

> PRIMARY KEY (CarNum, MoveNo, MoveType),

> CHECK (MoveType IN ('A','B','C','D','E'))

> )

>

> If you had this table, solving your query would be simple. But since you

> *don't have it yet, let's first make a view that holds the same*  
> *information:*  
>  
> *CREATE VIEW BetterCarMovements*  
> *AS*  
> *SELECT CarNum,*  
> *(SELECT COUNT(\*)*  
> *FROM CarMovements AS b*  
> *WHERE b.CarNum = a.CarNum*  
> *AND b.MoveType = 'A'*  
> *AND b.MoveDate <= a.MoveDate) AS MoveNo,*  
> *MoveType,*  
> *MoveDate*  
> *FROM CarMovements AS a*  
>  
> *(Note: you can also use this view to quickly convert your current table to*  
> *a permanent table with the improved structure – of course, you will have*  
> *to change your application accordingly).*  
>  
> *Now that you have a view that holds the data in a more usable way, it's*  
> *easy to write your query:*  
>  
> *DECLARE @StartDate datetime*  
> *DECLARE @EndDate datetime*  
> *SET @StartDate = '20041001'*  
> *SET @EndDate = '20041005'*  
> *SELECT DISTINCT a.CarNum*  
> *FROM BetterCarMovements AS a*  
> *LEFT JOIN BetterCarMovements AS e*  
> *ON e.CarNum = a.CarNum*  
> *AND e.MoveNo = a.MoveNo*  
> *AND e.MoveType = 'E'*  
> *WHERE a.MoveType = 'A'*  
> *AND a.MoveDate <= @EndDate*  
> *AND COALESCE (e.MoveDate, @StartDate) >= @StartDate*  
>  
> *Note: Since you didn't provide CREATE TABLE and INSERT statements to*  
> *recreate your test data on my end, I didn't test the above query. See*  
> *[www.aspfaq.com/5006](http://www.aspfaq.com/5006) for future postings!*  
>  
> *Best, Hugo*  
> *--*  
>  
> *(Remove \_NO\_ and \_SPAM\_ to get my e-mail address)*