DAL: Specify a Procedure Parameter For the Order By Command

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TOPIC ---

I have a DAL question about how to specify a procedure parameter to do a
sort using the "order by" SQL command.

Here is an example. Sorting in the following procedure should be
possible on:

• Item fromdepot, which works
• Item 3 the calculated value, which does not working.

The procedure and some examples of the execution is shown below:

```
procedure GetTotalList( xFromdate, xSortitem)
argument Date      xFromdate ;
argument Objname   xSortitem ;
{
  SELECT
      A.FromDepot ,
      A.ToDepot   ,
      Sum(a.volume*a.intransitqty/a.volumeqty)
  FROM
      MLYXX.TB23Transit A
  WHERE
      A.Tickoffdate > xFromdate AND
      A.volumeqty  > 0
  GROUP BY
      A.Fromdepot ,
      A.Todepot
  ORDER BY
      :xSortitem  ;
  FOR EACH ä printf("%6sÉt%6sÉt%6.1fÉt",
                ->FromDepot        ,
                ->ToDepot          ,
                ->Expr3            );
          }
  COMMIT;
} end procedure GetTotalList;
```

The execution example below shows the procedure with error message:

```
begin> gettotallist('1992-12-25', 3);
more> go
Execution begins...
Error -206 (0)  column not found  (3)
Message is "network", line 1 : unknown column name for any table
```

The execution example below shows the procedure when it works OK:

```
more> gettotallist('1992-12-25', "Fromdepot");
more> go
Execution begins...
BE1101  DE1101   645.2  BE1101  DE1401   460.7
```

What is wrong?

DISCUSSION ---

To do a sort, two things are required:

• The DBMS must support the ORDER BY clause. Not all DBMS brands support
  this SQL feature. This clause is what actually does the sort, not DAL.

• The field to be sorted on MUST be a result column in the cursor
  (results table) created by the select command. In other words, it has to
  be a column name or a column number from the results table.

The following example has been tested with DB2 and DAL (as a procedure) and
uses the demo data that is installed with DAL for consistency:

```
procedure sorttest ()
{
   select cust_state, sum((receivable / credit_line) * 100)
     from cl1.customer
    group by cust_state
    order by 2 ;
      for each {
               print cust_state, ->2 ;
              }
}
end procedure sorttest;
```

In your procedure, you were trying to do the ORDER BY clause with some
other field than what is available to the DBMS in the results table. Your
only valid choices for a field to specify in the ORDER BY clause are:

• FromDepot
• ToDepot

- 3 (the column number of the SUM expression)

If you want to give the sort field as an argument that could change with each execution of the procedure, the sortkey MUST be an integer, which will translate to the column number. A DAL procedure does not allow column name to be used in a parameter of a procedure.

As long as the procedure specifies that the sort field argument is an integer, and you select a valid column number (in the results table) it works just fine. Here is an example:

```
  procedure sorttest (sortkey)
  argument integer sortkey ;
  {
     select cust_state, sum((receivable / credit_line) * 100)
       from cl1.customer
      group by cust_state
      order by :sortkey ;
        for each {
                  print cust_state, ->2 ;
                 }
  }
  end procedure sorttest;
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```


Keywords: <None>

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