



conditional_aggr.pql

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Conditional Aggregation Example Script

2.2

Table of Contents

Conditional Aggregation Example Script

SCRIPT NAME	1
DESCRIPTION	1
1. PROCESS DETAILS	1
1.1 PRODUCT_CODE	1
Description	1
1.2 AVG_COST_PRICE	1
Description	1
1.3 MIN_COST_PRICE	1
Description	1
1.4 MAX_COST_PRICE	1
Description	1
1.5 SUM_COST_PRICE	1
Description	1
1.6 AVG_COST_PRICE_NSW	1
Description	2
Aggregation condition	2
1.7 MIN_COST_PRICE_NSW	2
Description	2
Aggregation condition	2
1.8 MAX_COST_PRICE_NSW	2
Description	2
Aggregation condition	2
1.9 SUM_COST_PRICE_NSW	2
Description	2
Aggregation condition	2
1.10 AVG_COST_PRICE_VIC	2
Description	2
Aggregation condition	2
1.11 MIN_COST_PRICE_VIC	2
Description	2
Aggregation condition	2
1.12 MAX_COST_PRICE_VIC	2
Description	2
Aggregation condition	3
1.13 SUM_COST_PRICE_VIC	3
Description	3
Aggregation condition	3
1.14 RANGE_COST_PRICE	3
Description	3
Derived Field Evaluation	3
2. CONFIGURATION SETTINGS	4
2.1 pequeldoc	4
2.2 detail	4
2.3 script_name	4
2.4 header	4
2.5 optimize	4
2.6 doc_title	4
2.7 doc_email	4
2.8 doc_version	4
3. TABLES	5
4. TABLE INFORMATION SUMMARY	6
4.1 Table List Sorted By Table Name	6
5. CONDITIONAL_AGGR.PQL	7

options	7
description	7
sort by	7
group by	7
input section	7
output section	7
6. PEQUEL GENERATED PROGRAM	8
7. ABOUT PEQUEL	11
COPYRIGHT	11

SCRIPT NAME

conditional_aggr.pql

DESCRIPTION

Demonstrates the use of conditional aggregations. A conditional aggregate is done with the 'where' clause. This example analyses the **COST_PRICE** in various ways for the two states: NSW and VIC.

1. PROCESS DETAILS

Input records are read from standard input. The input record contains **8** fields. Fields are delimited by the '|' character.

Output records are written to standard output. The output record contains **14** fields. Fields are delimited by the '|' character.

Input stream is **sorted** by the input field **PRODUCT_CODE** (*string*).

Input records are **grouped** by the input field **PRODUCT_CODE** (*string*).

1.1 **PRODUCT_CODE**

Output Field

Description

Set to input field **PRODUCT_CODE**

1.2 **AVG_COST_PRICE**

Output Field

Description

Avg aggregation on input field **COST_PRICE**.

1.3 **MIN_COST_PRICE**

Output Field

Description

Min aggregation on input field **COST_PRICE**.

1.4 **MAX_COST_PRICE**

Output Field

Description

Max aggregation on input field **COST_PRICE**.

1.5 **SUM_COST_PRICE**

Output Field

Description

Sum aggregation on input field **COST_PRICE**.

1.6 **AVG_COST_PRICE_NSW**

Output Field

Description

Avg aggregation on input field **COST_PRICE**.

Aggregation condition

LOCATION eq 'NSW';

1.7 MIN_COST_PRICE_NSW

Output Field

Description

Min aggregation on input field **COST_PRICE**.

Aggregation condition

LOCATION eq 'NSW';

1.8 MAX_COST_PRICE_NSW

Output Field

Description

Max aggregation on input field **COST_PRICE**.

Aggregation condition

LOCATION eq 'NSW';

1.9 SUM_COST_PRICE_NSW

Output Field

Description

Sum aggregation on input field **COST_PRICE**.

Aggregation condition

LOCATION eq 'NSW';

1.10 AVG_COST_PRICE_VIC

Output Field

Description

Avg aggregation on input field **COST_PRICE**.

Aggregation condition

LOCATION eq 'VIC';

1.11 MIN_COST_PRICE_VIC

Output Field

Description

Min aggregation on input field **COST_PRICE**.

Aggregation condition

LOCATION eq 'VIC';

1.12 MAX_COST_PRICE_VIC

Output Field

Description

Max aggregation on input field **COST_PRICE**.

Aggregation condition

LOCATION eq 'VIC';

1.13 SUM_COST_PRICE_VIC

Output Field

Description

Sum aggregation on input field **COST_PRICE**.

Aggregation condition

LOCATION eq 'VIC';

1.14 RANGE_COST_PRICE

Output Field

Description

Derived (calculated) field.

Derived Field Evaluation

2. CONFIGURATION SETTINGS

2.1 *pequeldoc*

generate pod / pdf pequel script Reference Guide.: pdf

2.2 *detail*

Include Pequel Generated Program chapter in Pequeldoc: 1

2.3 *script_name*

script filename: conditional_aggr.pql

2.4 *header*

write header record to output.: 1

2.5 *optimize*

optimize generated code.: 1

2.6 *doc_title*

document title.: Conditional Aggregation Example Script

2.7 *doc_email*

document email entry.: sample@youraddress.com

2.8 *doc_version*

document version for pequel script.: 2.2

3. TABLES

4. TABLE INFORMATION SUMMARY

4.1 Table List Sorted By Table Name

5. CONDITIONAL_AGGR.PQL

options

```
pequeldoc(pdf)
detail(1)
script_name(conditional_aggr.pql)
header(1)
optimize(1)
doc_title(Conditional Aggregation Example Script)
doc_email(sample@youraddress.com)
doc_version(2.2)
```

description

Demonstrates the use of conditional aggregations. A conditional aggregate is done with the 'where' clause. This example analyses the COST_PRICE in various ways for the two states: NSW and VIC.

sort by

```
PRODUCT_CODE string
```

group by

```
PRODUCT_CODE string
```

input section

```
PRODUCT_CODE
COST_PRICE
DESCRIPTION
SALES_CODE
SALES_PRICE
SALES_QTY
SALES_DATE
LOCATION
```

output section

```
string    PRODUCT_CODE    PRODUCT_CODE
numeric   AVG_COST_PRICE  avg COST_PRICE
numeric   MIN_COST_PRICE  min COST_PRICE
numeric   MAX_COST_PRICE  max COST_PRICE
numeric   SUM_COST_PRICE  sum COST_PRICE
numeric   AVG_COST_PRICE_NSW avg COST_PRICE where LOCATION eq 'NSW'
numeric   MIN_COST_PRICE_NSW min COST_PRICE where LOCATION eq 'NSW'
numeric   MAX_COST_PRICE_NSW max COST_PRICE where LOCATION eq 'NSW'
numeric   SUM_COST_PRICE_NSW sum COST_PRICE where LOCATION eq 'NSW'
numeric   AVG_COST_PRICE_VIC avg COST_PRICE where LOCATION eq 'VIC'
numeric   MIN_COST_PRICE_VIC min COST_PRICE where LOCATION eq 'VIC'
numeric   MAX_COST_PRICE_VIC max COST_PRICE where LOCATION eq 'VIC'
numeric   SUM_COST_PRICE_VIC sum COST_PRICE where LOCATION eq 'VIC'
numeric   RANGE_COST_PRICE = MAX_COST_PRICE - MIN_COST_PRICE
```

6. PEQUEL GENERATED PROGRAM

```
# vim: syntax=perl ts=4 sw=4
#-----
#Generated By: pequel Version 2.2-9, Build: Tuesday September 13 08:43:08 BST 2005
#           : https://sourceforge.net/projects/pequel/
#Script Name : conditional_aggr.pql
#Created On  : Tue Sep 13 10:19:02 2005
#For         :
#-----
#Options:
#pequeldoc(pdf) generate pod / pdf pequel script Reference Guide.
#detail(1) Include Pequel Generated Program chapter in Pequeldoc
#script_name(conditional_aggr.pql) script filename
#header(1) write header record to output.
#optimize(1) optimize generated code.
#doc_title(Conditional Aggregation Example Script) document title.
#doc_email(sample@youraddress.com) document email entry.
#doc_version(2.2) document version for pequel script.
#-----
use strict;
local $\\="\\n"; local $,="|";
print STDERR '[conditional_aggr.pql ' . localtime() . "] Init";
use constant VERBOSE => int 10000;
use constant LAST_ICELL => int 7;
my @I_VAL;
my @O_VAL;
my %AVERAGE;
my $key__I_PRODUCT_CODE;
my $previous_key__I_PRODUCT_CODE = undef;
foreach my $f (1..14) { $O_VAL[$f] = undef; }
use constant _I_PRODUCT_CODE      => int 0;
use constant _I_COST_PRICE        => int 1;
use constant _I_DESCRIPTION       => int 2;
use constant _I_SALES_CODE        => int 3;
use constant _I_SALES_PRICE       => int 4;
use constant _I_SALES_QTY         => int 5;
use constant _I_SALES_DATE        => int 6;
use constant _I_LOCATION          => int 7;
use constant _O_PRODUCT_CODE      => int 1;
use constant _O_AVG_COST_PRICE    => int 2;
use constant _O_MIN_COST_PRICE    => int 3;
use constant _O_MAX_COST_PRICE    => int 4;
use constant _O_SUM_COST_PRICE    => int 5;
use constant _O_AVG_COST_PRICE_NSW => int 6;
use constant _O_MIN_COST_PRICE_NSW => int 7;
use constant _O_MAX_COST_PRICE_NSW => int 8;
use constant _O_SUM_COST_PRICE_NSW => int 9;
use constant _O_AVG_COST_PRICE_VIC => int 10;
use constant _O_MIN_COST_PRICE_VIC => int 11;
use constant _O_MAX_COST_PRICE_VIC => int 12;
use constant _O_SUM_COST_PRICE_VIC => int 13;
use constant _O_RANGE_COST_PRICE   => int 14;
open(DATA, q{cat - | sort -t'|' -y -k 1,1 |}) || die "Cannot open input: $!";
&PrintHeader();
print STDERR '[conditional_aggr.pql ' . localtime() . "] Start";
use Benchmark;
my $benchmark_start = new Benchmark;
while (<DATA>)
{
    print STDERR '[conditional_aggr.pql ' . localtime() . "] $. records." if ($. % VERBOSE == 0);
    chomp;
    @I_VAL = split("[|]", $_);
    $key__I_PRODUCT_CODE = $I_VAL[_I_PRODUCT_CODE];
    if (!defined($previous_key__I_PRODUCT_CODE))
    {
        $previous_key__I_PRODUCT_CODE = $key__I_PRODUCT_CODE;
    }

    elsif ($previous_key__I_PRODUCT_CODE ne $key__I_PRODUCT_CODE)
    {
        $O_VAL[_O_AVG_COST_PRICE] = ($AVERAGE{_O_AVG_COST_PRICE}{_COUNT} == 0 ? 0 : $AVERAGE{_O_AVG_COST_PRICE}{_SUM} / $AVERAGE{_O_AVG_COST_PRICE}{_COUNT});
        $O_VAL[_O_AVG_COST_PRICE_NSW] = ($AVERAGE{_O_AVG_COST_PRICE_NSW}{_COUNT} == 0 ? 0 : $AVERAGE{_O_AVG_COST_PRICE_NSW}{_SUM} / $AVERAGE{_O_AVG_COST_PRICE_NSW}{_COUNT});
        $O_VAL[_O_AVG_COST_PRICE_VIC] = ($AVERAGE{_O_AVG_COST_PRICE_VIC}{_COUNT} == 0 ? 0 : $AVERAGE{_O_AVG_COST_PRICE_VIC}{_SUM} / $AVERAGE{_O_AVG_COST_PRICE_VIC}{_COUNT});
        $O_VAL[_O_RANGE_COST_PRICE] = $O_VAL[_O_MAX_COST_PRICE] - $O_VAL[_O_MIN_COST_PRICE];
        print
            $O_VAL[_O_PRODUCT_CODE],
            $O_VAL[_O_AVG_COST_PRICE],
            $O_VAL[_O_MIN_COST_PRICE],
```

```

        $O_VAL[_O_MAX_COST_PRICE],
        $O_VAL[_O_SUM_COST_PRICE],
        $O_VAL[_O_AVG_COST_PRICE_NSW],
        $O_VAL[_O_MIN_COST_PRICE_NSW],
        $O_VAL[_O_MAX_COST_PRICE_NSW],
        $O_VAL[_O_SUM_COST_PRICE_NSW],
        $O_VAL[_O_AVG_COST_PRICE_VIC],
        $O_VAL[_O_MIN_COST_PRICE_VIC],
        $O_VAL[_O_MAX_COST_PRICE_VIC],
        $O_VAL[_O_SUM_COST_PRICE_VIC],
        $O_VAL[_O_RANGE_COST_PRICE]
    ;
    $previous_key__I_PRODUCT_CODE = $key__I_PRODUCT_CODE;
    @O_VAL = undef;
    %AVERAGE = undef;
}

$O_VAL[_O_PRODUCT_CODE] = $I_VAL[_I_PRODUCT_CODE];
$AVERAGE{_O_AVG_COST_PRICE}{_SUM} += $I_VAL[_I_COST_PRICE];
$AVERAGE{_O_AVG_COST_PRICE}{_COUNT}++;
$O_VAL[_O_MIN_COST_PRICE] = $I_VAL[_I_COST_PRICE]
    if (!defined($O_VAL[_O_MIN_COST_PRICE]) || $I_VAL[_I_COST_PRICE] < $O_VAL[_O_MIN_COST_PRICE]);
$O_VAL[_O_MAX_COST_PRICE] = $I_VAL[_I_COST_PRICE]
    if (!defined($O_VAL[_O_MAX_COST_PRICE]) || $I_VAL[_I_COST_PRICE] > $O_VAL[_O_MAX_COST_PRICE]);
$O_VAL[_O_SUM_COST_PRICE] += $I_VAL[_I_COST_PRICE] unless ($I_VAL[_I_COST_PRICE] eq '');

if ($I_VAL[_I_LOCATION] eq 'NSW') {
    $AVERAGE{_O_AVG_COST_PRICE_NSW}{_SUM} += $I_VAL[_I_COST_PRICE];
    $AVERAGE{_O_AVG_COST_PRICE_NSW}{_COUNT}++;
    $O_VAL[_O_MIN_COST_PRICE_NSW] = $I_VAL[_I_COST_PRICE]
        if (!defined($O_VAL[_O_MIN_COST_PRICE_NSW]) || $I_VAL[_I_COST_PRICE] < $O_VAL[_O_MIN_COST_PRICE_NS
W]);
    $O_VAL[_O_MAX_COST_PRICE_NSW] = $I_VAL[_I_COST_PRICE]
        if (!defined($O_VAL[_O_MAX_COST_PRICE_NSW]) || $I_VAL[_I_COST_PRICE] > $O_VAL[_O_MAX_COST_PRICE_NS
W]);
    $O_VAL[_O_SUM_COST_PRICE_NSW] += $I_VAL[_I_COST_PRICE] unless ($I_VAL[_I_COST_PRICE] eq '');
}
elseif ($I_VAL[_I_LOCATION] eq 'VIC') {
    $AVERAGE{_O_AVG_COST_PRICE_VIC}{_SUM} += $I_VAL[_I_COST_PRICE];
    $AVERAGE{_O_AVG_COST_PRICE_VIC}{_COUNT}++;
    $O_VAL[_O_MIN_COST_PRICE_VIC] = $I_VAL[_I_COST_PRICE]
        if (!defined($O_VAL[_O_MIN_COST_PRICE_VIC]) || $I_VAL[_I_COST_PRICE] < $O_VAL[_O_MIN_COST_PRICE_VI
C]);
    $O_VAL[_O_MAX_COST_PRICE_VIC] = $I_VAL[_I_COST_PRICE]
        if (!defined($O_VAL[_O_MAX_COST_PRICE_VIC]) || $I_VAL[_I_COST_PRICE] > $O_VAL[_O_MAX_COST_PRICE_VI
C]);
    $O_VAL[_O_SUM_COST_PRICE_VIC] += $I_VAL[_I_COST_PRICE] unless ($I_VAL[_I_COST_PRICE] eq '');
}
}

$O_VAL[_O_AVG_COST_PRICE] = ($AVERAGE{_O_AVG_COST_PRICE}{_COUNT} == 0 ? 0 : $AVERAGE{_O_AVG_COST_PRICE}{_SUM}
/ $AVERAGE{_O_AVG_COST_PRICE}{_COUNT});
$O_VAL[_O_AVG_COST_PRICE_NSW] = ($AVERAGE{_O_AVG_COST_PRICE_NSW}{_COUNT} == 0 ? 0 : $AVERAGE{_O_AVG_COST_PRICE
_NSW}{_SUM} / $AVERAGE{_O_AVG_COST_PRICE_NSW}{_COUNT});
$O_VAL[_O_AVG_COST_PRICE_VIC] = ($AVERAGE{_O_AVG_COST_PRICE_VIC}{_COUNT} == 0 ? 0 : $AVERAGE{_O_AVG_COST_PRICE
_VIC}{_SUM} / $AVERAGE{_O_AVG_COST_PRICE_VIC}{_COUNT});
$O_VAL[_O_RANGE_COST_PRICE] = $O_VAL[_O_MAX_COST_PRICE] - $O_VAL[_O_MIN_COST_PRICE];
print
    $O_VAL[_O_PRODUCT_CODE],
    $O_VAL[_O_AVG_COST_PRICE],
    $O_VAL[_O_MIN_COST_PRICE],
    $O_VAL[_O_MAX_COST_PRICE],
    $O_VAL[_O_SUM_COST_PRICE],
    $O_VAL[_O_AVG_COST_PRICE_NSW],
    $O_VAL[_O_MIN_COST_PRICE_NSW],
    $O_VAL[_O_MAX_COST_PRICE_NSW],
    $O_VAL[_O_SUM_COST_PRICE_NSW],
    $O_VAL[_O_AVG_COST_PRICE_VIC],
    $O_VAL[_O_MIN_COST_PRICE_VIC],
    $O_VAL[_O_MAX_COST_PRICE_VIC],
    $O_VAL[_O_SUM_COST_PRICE_VIC],
    $O_VAL[_O_RANGE_COST_PRICE]
;
print STDERR '[conditional_aggr.pql ' . localtime() . ']' $. records.";
my $benchmark_end = new Benchmark;
my $benchmark_timediff = timediff($benchmark_start, $benchmark_end);
print STDERR '[conditional_aggr.pql ' . localtime() . ']' Code statistics: @{{timestr($benchmark_timediff)}}";
#-+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+
sub PrintHeader
{
    local $\="\n";
    local $,="|";
    print
        'PRODUCT_CODE',
        'AVG_COST_PRICE',

```

```
'MIN_COST_PRICE' ,  
'MAX_COST_PRICE' ,  
'SUM_COST_PRICE' ,  
'AVG_COST_PRICE_NSW' ,  
'MIN_COST_PRICE_NSW' ,  
'MAX_COST_PRICE_NSW' ,  
'SUM_COST_PRICE_NSW' ,  
'AVG_COST_PRICE_VIC' ,  
'MIN_COST_PRICE_VIC' ,  
'MAX_COST_PRICE_VIC' ,  
'SUM_COST_PRICE_VIC' ,  
'RANGE_COST_PRICE'  
;  
}
```

7. ABOUT PEQUEL

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<https://sourceforge.net/projects/pequel/>

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