

Exercise – roll-up

Quarterly sales	1 st quarter	2 nd quarter	3 rd quarter	4 th quarter
DVD players	536	705	735	989
TV sets	567	716	606	717
BD players	187	155	186	226
Camcorders	175	191	202	319

- Indicate what you obtain by applying a roll-up that eliminates the “product” dimension from the cube above

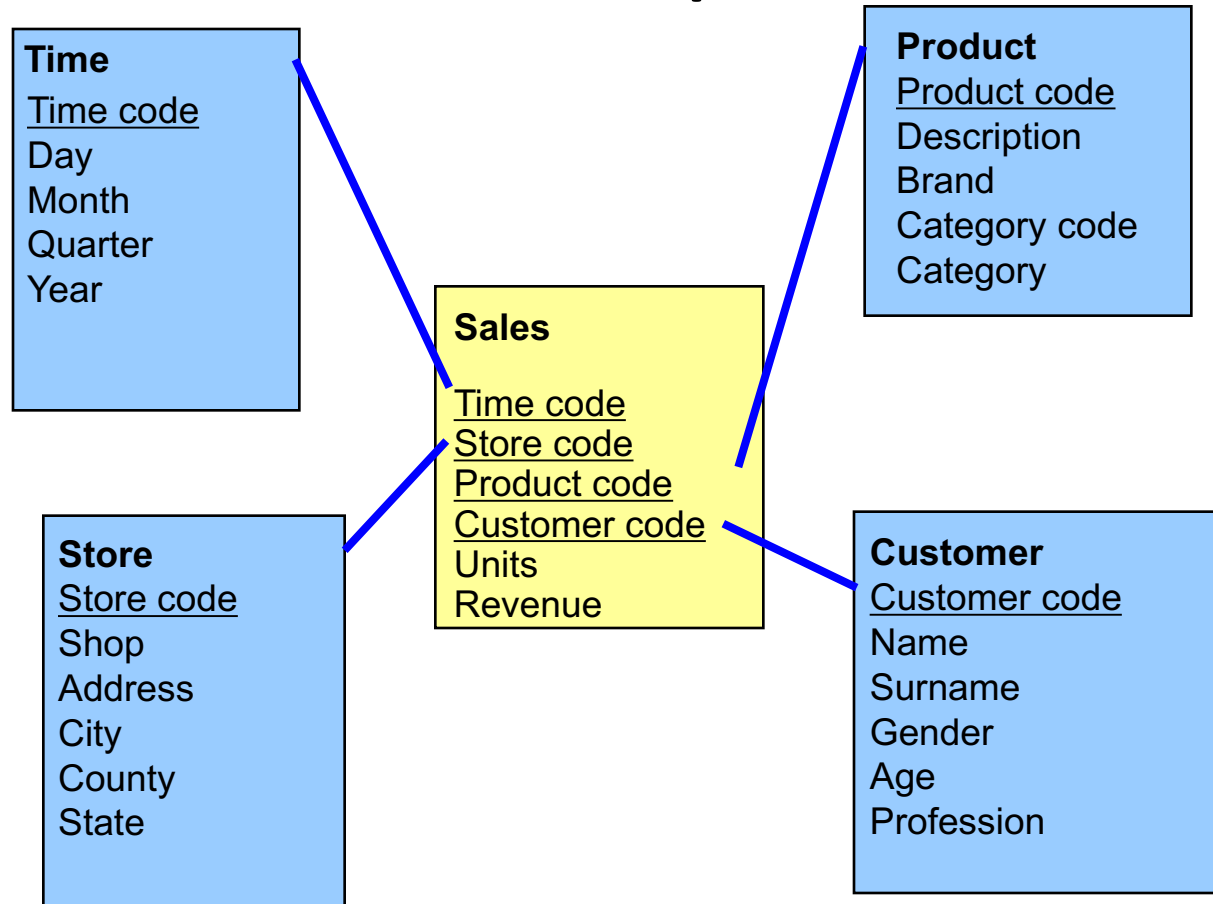
Solution

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DVD players	536	705	735	989
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- Indicate what you obtain by applying a roll-up that eliminates the “product” dimension from the cube above

Quarterly sales	1 st quarter	2 nd quarter	3 rd quarter	4 th quarter
All products	1465	1767	1729	2251

Exercise - queries



- Write an SQL query using the WITH CUBE (resp., WITH ROLLUP) clause that computes the total sales by product brand and quarter. Show a possible result

Solution – WITH CUBE query

```
select Brand, Quarter,  
       sum(revenue) as totalSales  
from Sales, Time, Product  
where Sales.timecode = Time.timecode  
and Sales.productcode =  
     Product.productcode  
group by Quarter, Brand  
with cube
```

Solution – possible result (WITH CUBE)

Brand	Quarter	totalSales
fiat	1-1994	10
fiat	2-1994	20
fiat	3-1994	30
fiat	4-1994	5
fiat	ALL	65
ford	1-1994	80
ford	2-1994	50
ford	3-1994	10
ford	4-1994	2
ford	ALL	142
ALL	1-1994	90
ALL	2-1994	70
ALL	3-1994	40
ALL	4-1994	7
ALL	ALL	207

Solution – WITH ROLLUP query

```
select Brand, Quarter,  
       sum(revenue) as totalSales  
from Sales, Time, Product  
where Sales.timecode = Time.timecode  
and Sales.productcode =  
     Product.productcode  
group by Quarter, Brand  
with rollup
```

Solution – possible result (WITH ROLLUP)

Brand	Quarter	totalSales
fiat	1-1994	10
fiat	2-1994	20
fiat	3-1994	30
fiat	4-1994	5
ford	1-1994	80
ford	2-1994	50
ford	3-1994	10
ford	4-1994	2
fiat	ALL	65
ford	ALL	142
ALL	ALL	207

Exercise – WITH CUBE

- Consider the following instance of the table TotalSales(Product, Year, Total)
- Compute the result of the following query
SELECT Product, Year, SUM(Total)
FROM TotalSales
GROUP BY Product, Year
WITH CUBE
- How would the result change with the **WITH ROLLUP** clause?

Product	Year	Total
Soap	2005	150
Soap	2006	160
Soap	2007	170
Toothpaste	2005	120
Toothpaste	2006	80

Solution – WITH CUBE

Product	Year	sum(Total)
Soap	2005	150
Soap	2006	160
Soap	2007	170
Toothpaste	2005	120
Toothpaste	2006	80
Soap	all	480
Toothpaste	all	200
all	2005	270
all	2006	240
all	2007	170
all	all	680

Solution – WITH ROLLUP

Product	Year	sum(Total)
Soap	2005	150
Soap	2006	160
Soap	2007	170
Toothpaste	2005	120
Toothpaste	2006	80
Soap	all	480
Toothpaste	all	200
all	all	680