

Part 1.1 Here today, gone tomorrow

a) Pivot table screenshots

Baseline

Sales Manager	Gross Sales	Net Sales
Bill Bends	27731	25072
Rick Rober	20685	18322
Grand Total	48416	43394

After change

Sales Manager	Gross Sales	Net Sales
Rick Rober	20685	18322
Dave Diver	27731	25072
Grand Total	48416	43394

b) Analysis

Baseline is correct.

After change is incorrect because it just changed the sales manager's name which assigned gross sales and net sales of previous manager to the new one.

Using incorrect pivot table will show incorrect gross sales and net sales of the new manager and will falsely show his progress.

Part 1.2 What's the price?

a) Pivot table screenshots

Baseline

SKU	Avg Price
100200 Std. Scuba Tank, Magenta	\$149.99
101100 Dive Mask, Small Clear	\$79.99
101200 Dive Mask, Med Clear	\$89.99
201000 Half-dome Tent	\$215.00
202000 Half-dome Tent Vestibule	\$215.00
204000 Toasty Sleeping Bag	\$112.00
204010 Fry 'em Cooking Stove	\$85.00
Grand Total	\$142.44

After Change

SKU	Avg Price
100200 Std. Scuba Tank, Magenta	\$149.99
101100 Dive Mask, Small Clear	\$79.99
101200 Dive Mask, Med Clear	\$89.99
201000 Half-dome Tent	\$215.00
202000 Half-dome Tent Vestibule	\$245.00
204000 Toasty Sleeping Bag	\$112.00
204010 Fry 'em Cooking Stove	\$85.00
Grand Total	\$147.59

b) Analysis

After change is correct.

Base line is incorrect as it incorrectly shows the price of Half-dome Tent Vestibule.

Using incorrect pivot table will lead to less profit as price is lower and will decrease the sales of half-dome tent as people will prefer Half-dome tent vestibule for the same price.

Part 1.3 Numbers count!

a) Pivot table screenshots

Baseline

Warehouse	Units Shipped
Atlanta	117
Richmond	109
Springfield	107
Worcester	104
Grand Total	437

After change

Warehouse	Units Shipped
Atlanta	117
Richmond	109
Springfield	107
Grand Total	333

b) Analysis

Baseline is correct.

After change is incorrect because it omits Worcester as we changed warehouse number for worchester which is a primary key in dimWarehouse. Which is also a foreign key in facts

table and changes are not made there so it won't reflect the quantity for Worchester and that's why omits it.

Using incorrect pivot table will give us wrong information about total units shipped as well as units shipped from Worchester.

Part 2.1 Here today, gone tomorrow

a) Pivot table screenshots

Baseline

Sales Manager	Gross Sales	Net Sales
Bill Bends	27731	25072
Rick Rober	20685	18322
Grand Total	48416	43394

After change

Sales Manager	Gross Sales	Net Sales
Rick Rober	20685	18322
Dave Diver	27731	25072
Grand Total	48416	43394

b) Analysis

Baseline is correct.

After change is incorrect because it just changed the sales manager's name which assigned gross sales and net sales of previous manager to the new one.

Using incorrect pivot table will show incorrect gross sales and net sales of the new manager and will falsely show his progress.

Part 2.2 What's the price?

a) Pivot table screenshots

Baseline

Sales Manager	Average of Price
100200 Std. Scuba Tank, Magenta	149.99
101100 Dive Mask, Small Clear	79.99
101200 Dive Mask, Med Clear	89.99
201000 Half-dome Tent	215
202000 Half-dome Tent Vestibule	215
204000 Toasty Sleeping Bag	112
204010 Fry 'em Cooking Stove	85
Grand Total	142.4448571

After change

Sales Manager	Average of Price
100200 Std. Scuba Tank, Magenta	149.99
101100 Dive Mask, Small Clear	79.99
101200 Dive Mask, Med Clear	89.99
201000 Half-dome Tent	215
202000 Half-dome Tent Vestibule	245
204000 Toasty Sleeping Bag	112
204010 Fry 'em Cooking Stove	85
Grand Total	147.5877143

b) Analysis

After change is correct.

Base line is incorrect as it incorrectly shows the price of Half-dome Tent Vestibule.

Using incorrect pivot table will lead to less profit as price is lower and will decrease the sales of half-dome tent as people will prefer Half-dome tent vestibule for the same price.

Part 2.3 Numbers count!

a) Pivot table screenshots

Baseline

After change

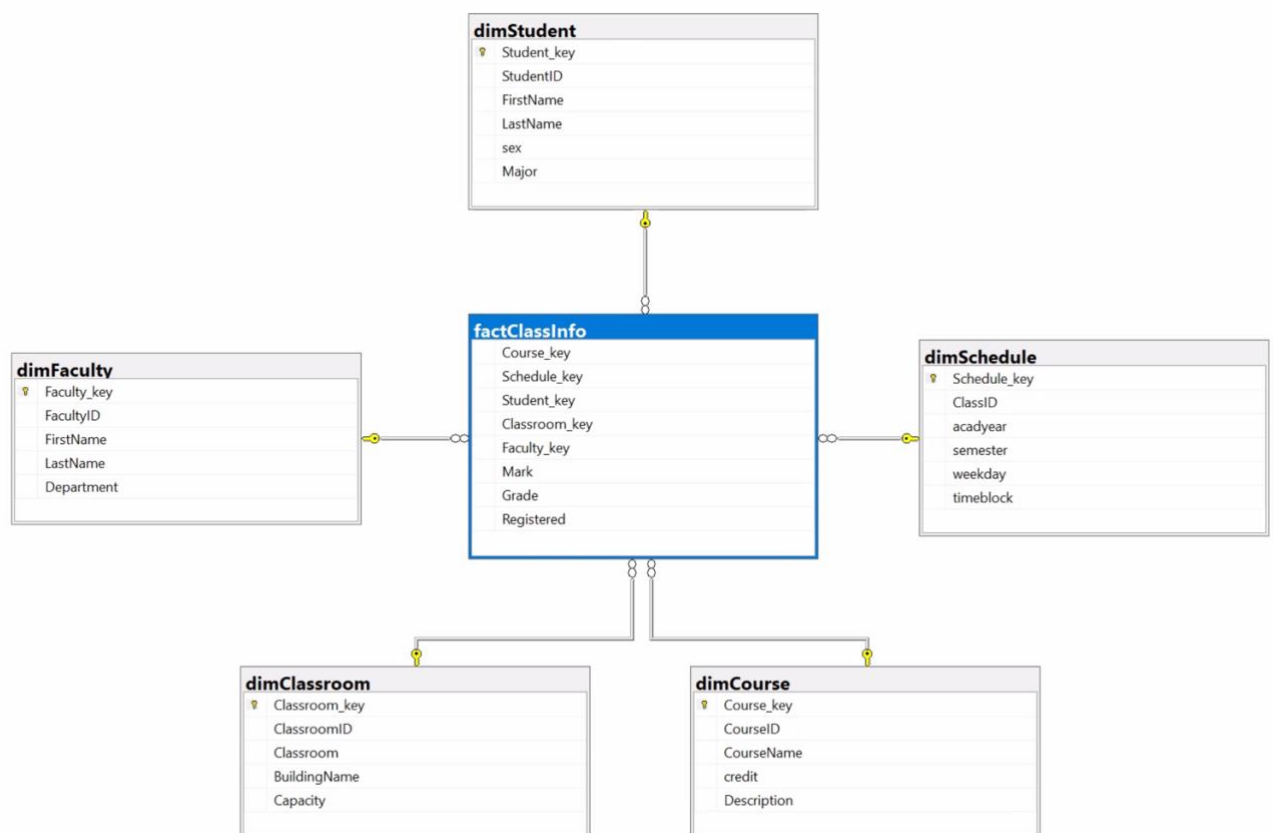
Warehouse	Units Shipped
Atlanta	117
Richmond	109
Springfield	107
Worcester	104
Grand Total	437

b) Analysis

There are no differences between both the pivot tables and they both are correct.

Part 3

3.1 A screen shot of your revised star schema design



3.2 Reasoning

a) Added surrogate keys – I did that because as seen in part 1.3 and part 2.3, using natural keys as primary keys will not handle changes made to primary key. In part 1.3 where natural key was primary key, changes made in warehouse number (natural key) omitted the worchester. Whereas in part 2.3 where surrogate key was there, changes were properly handled and Worchester was not omitted in the output.

b) Changed fact table name and included fact in the beginning – because it will identify type of table as fact table.