SQL Challenge

Challenge #1

Question:

The sales department has found that the Eurasian market is going to experience a boom in the next year. The sales department wants to increase the sale of popular items by 6%. To get an example of what the prices would be we need to get the customerNumber, orderNumber, and productCode, for all items currently sold to non-US markets. Then we need to calculate the priceEach with 6% increase and the potential profit based on the the prices with the 6% increase and the quantity ordered for each order minus the original total. The sales department would also like this information for future use, write the query implicitly and as a stored program in a language of your choice (IE: Python, C). The table should contain 7 columns and 1,992 rows. You will also need the mysql round function to round potential profit to the nearest two decimal places.

Result Table

orderNumber	productCode	customerNumber	nciceFach	nriceIncrease	nrandIntal	potentialProfit
+		eds concentration	preceden	pr cccincredsc		pocenticotti
10123	518 1589	103	120.71	127.9526	3138.46	
10123	518 2870	103	114.84	121.7304	5282.64	
10123	S18 3685	103	117.26	124.2956	3986.84	239
10123	524 1628	103	43.27	45.8662	2163.50	130
10298	S10 2016	103	105.86	112.2116	4128.54	248
10298	S18 2625	103	60.57	64.2042	1938.24	116
10345	524 2022	103	38.98	41.3188	1676.14	101
10120	510 2016	114	118.94	126.0764	3449.26	207
10120	510 4698	114	158.80	168.3280	7304.80	438
10120	S18 2581	114	82.79	87.7574	2400.91	144
10120	518 2625	114	57.54	60.9924	2646.84	159
10120	524 1578	114	110.45	117.0770	3865.75	232
10120	524 1785	114	93.01	98.5906	3627.39	218
10120	524_2000	114	72.36	76.7016	2460.24	148
10120	524 4278	114	71.73	76.0338	2080.17	125
10120	532 1374	114	94.90	100.5940	2087.80	125
10120	532_4289	114	68.79	72.9174	1994.91	120
10120	S50 1341	114	41.46	43.9476	2031.54	122
10120	S700 1691	114	91.34	96.8204	4292.98	258
10120	5700 2466	114	81.77	86.6762	1962.48	118
10120	S700_2834	114	106.79	113.1974	2562.96	154
10120	5700_3167	114	72.00	76.3200	3096.00	186
10125	518_1342	114	89.38	94.7428	2860.16	172
10125	518_2795	114	138.38	146.6828	4704.92	282
10223	I S10 1678	114	80.39	85,2134	2974.43	178

Your Query

```
import MySQLdb as mdb
import sys
try:
 con = mdb.connect('localhost', 'solivers17', 'OChigh89!', 'classicmodels')
 cur = con.cursor()
 (od.priceEach + (od.priceEach * .06)), (od.priceEach * od.quantityOrdered),
                ((od.priceEach * .06) * od.quantityOrdered)
                FROM orders AS o, orderdetails as od, products AS p
                WHERE o.orderNumber = od.orderNumber
                AND od.productCode = p.productCode
                AND o.customerNumber IN(SELECT customerNumber FROM customers WHERE country != 'USA')
                LIMIT 100""")
 rows = cur.fetchall()
 col = ['orderNumber', 'productCode', 'customerNumber', 'priceEach', \
'priceIncrease', 'grandTotal', 'potentialProfit']
print """| %11s | %11s | %14s | %11s | %13s | %10s | %15s |
""" % (col[0], col[1], col[2], col[3], col[4], col[5], col[6])
 for row in rows:
   print """| %11d | %11s | %14d | %11.2f | %13.4f | %10.2f | %15.0f |
""" % (row[0], row[1], row[2], row[3], row[4], row[5], row[6])
except mdb.Error, e:
 print ("MySQL ERROR!")
 print("Error: %s" % e.args[1])
 sys.exit(1)
finally:
 if con:
   con.close()
```

orderNumber p	productCode	customerNumber	priceEach	priceIncrease	grandTotal	potentialProfit
10123	S18_1589	103	120.71	127.9526	3138.46	188
10123	S18_2870	103	114.84	121.7304	5282.64	317
10123	S18_3685	103	117.26	124.2956	3986.84	239
10123	S24_1628	103	43.27	45.8662	2163.50	130
10298	S10_2016	103	105.86	112.2116	4128.54	248
10298	S18_2625	103	60.57	64.2042	1938.24	116
10345	S24_2022	103	38.98	41.3188	1676.14	101
10120	S10_2016	114	118.94	126.0764	3449.26	207
10120	S10_4698	114	158.80	168.3280	7304.80	438
10120	S18_2581	114	82.79	87.7574	2400.91	144
10120	S18_2625	114	57.54	60.9924	2646.84	159
10120	S24_1578	114	110.45	117.0770	3865.75	232
10120	S24_1785	114	93.01	98.5906	3627.39	218
10120	S24_2000	114	72.36	76.7016	2460.24	148
10120	S24_4278	114	71.73	76.0338	2080.17	125
10120	S32_1374	114	94.90	100.5940	2087.80	125
10120	S32_4289	114	68.79	72.9174	1994.91	120
10120	S50_1341	114	41.46	43.9476	2031.54	122
10120	5700_1691	114	91.34	96.8204	4292.98	258
10120	S700_2466	114	81.77	86.6762	1962.48	118
10120	S700_2834	114	106.79	113.1974	2562.96	154
10120	S700_3167	114	72.00	76.3200	3096.00	186
10125	S18_1342	114	89.38	94.7428	2860.16	172
10125	S18_2795	114	138.38	146.6828	4704.92	282
10223	S10 1678 I	114	80.39 I	85.2134 I	2974.43	178

^{**}There are more results, but I cut them off where the provided results tables does.

Return the check number and payment date for all payments whose checks begin with the letter 'P' and were written in February of 2004.

Result Table

```
+-----+
| checkNumber | paymentDate |
+-----+
| PB951268 | 2004-02-13 |
| PT550181 | 2004-02-29 |
+-----+
```

Your Query

```
SELECT checkNumber, paymentDate FROM payments WHERE checkNumber LIKE 'P%'
AND paymentDate LIKE '2004-02%'
```

```
mysql> source challenge02.sql
+-----+
| checkNumber | paymentDate |
+-----+
| PB951268 | 2004-02-13 |
| PT550181 | 2004-02-29 |
+-----+
2 rows in set, 1 warning (0.01 sec)
```

Show me the ten highest quantity products what were shipped (does not count null) at least a month after they were ordered.

Result Table

```
mysql> source sqlChall.sql
Database changed
 productCode | quantityOrdered |
| S700 3505 |
| 572_3212 |
| 550_1341 |
                          50 I
                          49 |
 S12 3891
                          49 |
 S32 3207
                          49 I
 512 2823
                          48
 S18_3782 |
                          48 I
 524 3432
                          48 |
 S24 4620
                          47 |
 S50_4713 |
                           47 |
10 rows in set (0.00 sec)
mysql>
```

Your Query

```
SELECT productCode, quantityOrdered FROM orderdetails

WHERE orderNumber IN (

SELECT orderNumber FROM orders WHERE shippedDate IS NOT NULL

AND (shippedDate - orderDate) > 31

)

GROUP BY productCode

ORDER BY quantityOrdered DESC

LIMIT 10;
```

```
productCode | quantityOrdered |
 S700 3505 |
                          50 1
 572 3212 |
                         50 |
                          49 |
 550 1341
 S12 3891
                          49 |
 532 3207
                          49 |
 512 2823
                          48 |
 S18_3782
                          48 |
                          48 |
 524 3432
 S24 4620
                          47 |
 S50 4713 |
                          47 |
10 rows in set (0.01 sec)
```

Show the customer (name, contact name, phone number), order number, and sales rep for all orders that were ordered or shipped during april of any year. Order by sales rep

Result Table

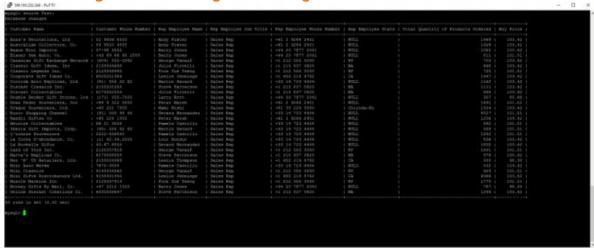
Customer	Contact	Phone Number	Order Number	Sales Rep
The Sharp Gifts Warehouse	Sue Frick	1 4085553659	10400	Leslie Jennings
The Sharp Gifts Warehouse	Sue Frick	1 4085553659	10407	Leslie Jennings
Diecast Collectables	Valarie Franco	6175552555	10243	Julie Firrelli
Vitachrome Inc.	Michael Frick	2125551500	10237	Foon Yue Tseng
Classic Legends Inc.	Maria Hernandez	2125558493	10115	Foon Yue Tseng
Microscale Inc.	Yu Choi	2125551957	10242	Foon Yue Tseng
Tekni Collectables Inc.	William Brown	2015559350	10233	George Vanauf
Tekni Collectables Inc.	William Brown	2015559350	10401	George Vanauf
Motor Mint Distributors Inc.	Rosa Salazar	2155559857	10236	George Vanauf
Royal Canadian Collectables, Ltd.	Elizabeth Lincoln	(604) 555-4555	10235	George Vanauf
Auto Canal+ Petit	Dominique Perrier	(1) 47.55.6555	10402	Loui Bondur
La Corne D'abondance, Co.	Marie Bertrand	(1) 42.34.2555	10114	Loui Bondur
Alpha Cognac	Annette Roulet	61.77.6555	10397	Gerard Hernande
Euro+ Shopping Channel	Diego Freyre	(91) 555 94 44	10244	Gerard Hernande
fini Caravy	Frédérique Citeaux	88.60.1555	10241	Gerard Hernande
Mini Caravy	Frédérique Citeaux	88.60.1555	10405	Gerard Hernande
Salzburg Collectables	Georg Pipps	6562-9555	10119	Pamela Castillo
Danish Wholesale Imports	Jytte Petersen	31 12 3555	10238	Pamela Castillo
Danish Wholesale Imports	Jytte Petersen	31 12 3555	10406	Pamela Castillo
Royale Belge	Pascale Cartrain	(071) 23 67 2555	10116	Pamela Castillo
JK Collectables, Ltd.	Elizabeth Devon	(171) 555-2282	10403	Larry Bott
Oulu Toy Supplies, Inc.	Pirkko Koskitalo	981-443655	10239	Larry Bott
Australian Collectors, Co.	Peter Ferguson	03 9520 4555	10120	Andy Fixter
Mandji Gifts& Co	Wendy Victorino	+65 224 1555	10409	Peter Marsh
Kelly's Gift Shop	Tony Snowden	+64 9 5555500	10399	Peter Marsh
Down Under Souveniers, Inc	Mike Graham	+64 9 312 5555	10404	Peter Marsh
GiftsForHim.com	Wales MacKinlay	64-9-3763555	10410	Peter Marsh
Extreme Desk Decorations, Ltd	Sarah McRoy	04 499 9555	10234	Peter Marsh
Oragon Souveniers, Ltd.	Eric Natividad	+65 221 7555	10117	Mami Nishi
Dsaka Souveniers Co.	Mory Kentary	+81 06 6342 5555	10240	Mami Nishi
Tokyo Collectables, Ltd	Akiko Shimamura	+81 3 3584 0555	10408	Mami Nishi
Enaco Distributors	Eduardo Saavedra	(93) 203 4555	10118	Martin Gerard

Your Query

Customer	Contact	Phone Number	Order Number	Sales Rep
The Sharp Gifts Warehouse	Sue Frick	4085553659	10400	Leslie Jennings
The Sharp Gifts Warehouse	Sue Frick	4085553659	10407	Leslie Jennings
Diecast Collectables	Valarie Franco	6175552555	10243	Julie Firrelli
Vitachrome Inc.	Michael Frick	2125551500	10237	Foon Yue Tseng
Classic Legends Inc.	Maria Hernandez	2125558493	10115	Foon Yue Tseng
Microscale Inc.	Yu Choi	2125551957	10242	Foon Yue Tseng
Tekni Collectables Inc.	William Brown	2015559350	10233	George Vanauf
Tekni Collectables Inc.	William Brown	2015559350	10401	George Vanauf
Motor Mint Distributors Inc.	Rosa Salazar	2155559857	10236	George Vanauf
Royal Canadian Collectables, Ltd.	Elizabeth Lincoln	(604) 555-4555	10235	George Vanauf
Auto Canal+ Petit	Dominique Perrier	(1) 47.55.6555	10402	Loui Bondur
La Corne D'abondance, Co.	Marie Bertrand	(1) 42.34.2555	10114	Loui Bondur
Alpha Cognac	Annette Roulet	61.77.6555	10397	Gerard Hernand
Euro+ Shopping Channel	Diego Freyre	(91) 555 94 44	10244	Gerard Hernand
Mini Caravy	Frédérique Citeaux	88.60.1555	10241	Gerard Hernand
Mini Caravy	Frédérique Citeaux	88.60.1555	10405	Gerard Hernand
Salzburg Collectables	Georg Pipps	6562-9555	10119	Pamela Castill
Danish Wholesale Imports	Jytte Petersen	31 12 3555	10238	Pamela Castill
Danish Wholesale Imports	Jytte Petersen	31 12 3555	10406	Pamela Castill
Royale Belge	Pascale Cartrain	(071) 23 67 2555	10116	Pamela Castill
UK Collectables, Ltd.	Elizabeth Devon	(171) 555-2282	10403	Larry Bott
Oulu Toy Supplies, Inc.	Pirkko Koskitalo	981-443655	10239	Larry Bott
Australian Collectors, Co.	Peter Ferguson	03 9520 4555	10120	Andy Fixter
Handji Gifts& Co	Wendy Victorino	+65 224 1555	10409	Peter Marsh
Kelly's Gift Shop	Tony Snowden	+64 9 5555500	10399	Peter Marsh
Down Under Souveniers, Inc	Mike Graham	+64 9 312 5555	10404	Peter Marsh
GiftsForHim.com	Wales MacKinlay	64-9-3763555	10410	Peter Marsh
Extreme Desk Decorations, Ltd	Sarah McRoy	04 499 9555	10234	Peter Marsh
Dragon Souveniers, Ltd.	Eric Natividad	+65 221 7555	1 10117	Mami Nishi
Osaka Souveniers Co.	Mory Kentary	+81 06 6342 5555	10240	Mami Nishi
Tokyo Collectables, Ltd	Akiko Shimamura	+81 3 3584 0555	10408	Mami Nishi
Enaco Distributors	Eduardo Saavedra	(93) 203 4555	10118	Martin Gerard

A company wants to rewards all of its customers who purchased items that cost more than 100 dollars each, and the sales representatives that sold it to them. They also want to reward customers and the sales reps of customers that have names consisting of five or more words (as part of a competition for longest name). Write a query that returns these customers' names, phone numbers, the total quantity of products ordered, and the price of the most expensive item they bought. Also have it return the sales rep employees' names (all in one column), job titles, phone numbers, and states. Limit it to the top 30, ordered by customerName

Result Table – good luck reading this table I guess??



Your Query

```
SELECT c.customerName AS 'Customer Name',
        c.phone AS 'Customer Phone',
       CONCAT (e.firstName, ' ', e.lastName) AS 'Rep Name',
        e.jobTitle AS 'REP Job',
        o.phone AS 'REP Phone',
        o.state AS 'REP State',
        SUM(det.quantityOrdered) AS 'Total Ordered',
       MAX(det.priceEach) AS 'Most Expensive'
                        AS C
        FROM customers
                        AS e
        JOIN employees
                                ON c.salesRepEmployeeNumber = e.employeeNumber
        JOIN orders
                         AS ord ON c.customerNumber = ord.customerNumber
        JOIN offices
                        AS o
                                ON e.officeCode = o.officeCode
        JOIN orderdetails AS det ON ord.orderNumber = det.orderNumber
       WHERE c.customerName LIKE '% % % % %'
        OR det.priceEach >= 100
        GROUP BY c.customerName
       ORDER BY c.customerName
        LIMIT 30;
```

Your Result – obviously I can't check if my table is the same as the provided one as the provided table is unreadable.

Customer Name			REP Job			Total Ordered	
Alpha Cognac	61.77.6555			+33 14 723 4404		216	
Amica Models & Co.	011-4988555	Pamela Castillo	Sales Rep	+33 14 723 4404	NULL	308	205.73
Anna's Decorations, Ltd	02 9936 8555	Andy Fixter	Sales Rep	+61 2 9264 2451	NULL		195.01
Atelier graphique	40.32.2555	Gerard Hernandez	Sales Rep	+33 14 723 4404	NULL	145	120.71
Australian Collectables, Ltd	61-9-3844-6555	Andy Fixter	Sales Rep	+61 2 9264 2451	NULL	136	153.00
Australian Collectors, Co.	03 9520 4555	Andy Fixter	Sales Rep	+61 2 9264 2451	NULL	746	189.79
Australian Gift Network, Co	61-7-3844-6555	Andy Fixter	Sales Rep	+61 2 9264 2451	NULL	374	207.87
Auto Associés & Cie.	30.59.8555	Gerard Hernandez	Sales Rep	+33 14 723 4404	NULL	219	201.44
Auto Canal+ Petit	(1) 47.55.6555	Loui Bondur	Sales Rep	+33 14 723 4404	NULL	283	171.22
AV Stores, Co.	(171) 555-1555	Larry Bott	Sales Rep	+44 20 7877 2041	NULL	501	182.86
Baane Mini Imports	07-98 9555	Barry Jones	Sales Rep	+44 20 7877 2041	NULL	338	214.3
Bavarian Collectables Imports, Co.	+49 89 61 08 9555	Barry Jones	Sales Rep	+44 20 7877 2041	NULL		146.6
Blauer See Auto, Co.	+49 69 66 90 2555	Barry Jones	Sales Rep	+44 20 7877 2041	NULL	304	184.8
CAF Imports	+34 913 728 555	Martin Gerard	Sales Rep	+33 14 723 4404	NULL	164	193.2
Cambridge Collectables Co.	617555555	Julie Firrelli	Sales Rep	+1 215 837 0825	MA	116	214.3
Canadian Gift Exchange Network	(604) 555-3392	George Vanauf	Sales Rep	+1 212 555 3000	NY	324	203.5
Classic Gift Ideas, Inc	2155554695	Julie Firrelli	Sales Rep	+1 215 837 0825	MA	195	180.0
Classic Legends Inc.	2125558493	Foon Yue Tseng	Sales Rep	+1 212 555 3000	NY	345	212.1
Clover Collections, Co.	+353 1862 1555	Barry Jones	Sales Rep	+44 20 7877 2041	NULL	243	189.1
Collectable Mini Designs Co.	7605558146	Leslie Thompson	Sales Rep	+1 650 219 4782	CA	230	137.1
Collectables For Less Inc.	6175558555	Julie Firrelli	Sales Rep	+1 215 837 0825	MA	263	195.01
Corporate Gift Ideas Co.	6505551386	Leslie Jennings	Sales Rep	+1 650 219 4782	CA	598	188.7
Corrida Auto Replicas, Ltd	(91) 555 22 82	Martin Gerard	Sales Rep	+33 14 723 4404	NULL	1 467	207.8
Cruz & Sons Co.	+63 2 555 3587	Mami Nishi	Sales Rep	+81 33 224 5000	Chiyoda-Ku	311	165.3
Daedalus Designs Imports	20.16.1555	Gerard Hernandez	Sales Rep	+33 14 723 4404	NULL	190	164.6
Danish Wholesale Imports	31 12 3555	Pamela Castillo	Sales Rep	+33 14 723 4404	NULL	534	205.7
Diecast Classics Inc.	2155551555	Steve Patterson		+1 215 837 0825	MA	425	189.7
Diecast Collectables	6175552555	Julie Firrelli	Sales Rep	+1 215 837 0825	MA	379	143.6
Double Decker Gift Stores, Ltd	(171) 555-7555	Larry Bott		+44 20 7877 2041	NULL	357	
Down Under Souveniers, Inc	+64 9 312 5555	Peter Marsh		+61 2 9264 2451	NULL	647	178.1

Display all orders placed in the month of February during any year other than 2004 where the sales representative was employee Leslie Jennings. Hint: this query requires multiple nested queries as the data is contained in multiple tables.

Result Table

Your Query

```
SELECT orderNumber, orderDate, shippedDate, customerNumber FROM orders

WHERE customerNumber IN(

SELECT customerNumber FROM customers WHERE salesRepEmployeeNumber IN(

SELECT employeeNumber FROM employees

WHERE firstName = 'Leslie' AND lastName = 'Jennings'

)

AND YEAR(orderDate) != 2004

AND MONTH(orderDate) = 2
```

Question #7 - This one was mine! ©

The company wants to reward the top three sales reps in the USA. Provide the employeeNumber, employeeName, email, and totalSales (in dollars) for the Top three sales reps ordered from first in sales to third in sales.

Result Table

Your Query

```
SELECT employeeNumber, CONCAT(firstName, ' ', lastname) AS 'employeeName', email, SUM(od.quantityOrdered*od.priceEach) AS 'totalSales' FROM employees e JOIN customers c ON e.employeeNumber = c.salesRepEmployeeNumber JOIN orders o ON c.customerNumber = o.customerNumber JOIN orderdetails od ON o.orderNumber = od.orderNumber WHERE officeCode IN (SELECT officeCode FROM offices WHERE country = 'USA') GROUP BY e.employeeNumber ORDER BY totalSales DESC LIMIT 3
```

English Question: What is the product name and vendor of all vintage cars that customers ordered from Leslie Jennings during the month of January 2005?

Result Table

- This is actually the table for Leslie Jennings' February 2005 vintage car sales
- I will demonstrate this finding below by giving the tables for JAN 05 and FEB 05

Your Query

FOR JAN 2005

```
SELECT productName, productVendor FROM products

WHERE productLine = 'Vintage Cars'

AND productCode IN(

SELECT productCode FROM orderdetails WHERE orderNumber IN(

SELECT orderNumber FROM orders WHERE YEAR(OrderDate) = 2005

AND MONTH(OrderDate) = 1

AND customerNumber IN(

SELECT customerNumber FROM customers WHERE salesRepEmployeeNumber IN(

SELECT employeeNumber FROM employees WHERE firstName = 'Leslie'

AND lastName = 'Jennings'

)

)

)

)

;
```

FOR FEB 2005

```
SELECT productName, productVendor FROM products

WHERE productLine = 'Vintage Cars'

AND productCode IN(

SELECT productCode FROM orderdetails WHERE orderNumber IN(

SELECT orderNumber FROM orders WHERE YEAR(OrderDate) = 2005

AND MONTH(OrderDate) = 2

AND customerNumber IN(

SELECT customerNumber FROM customers WHERE salesRepEmployeeNumber IN(

SELECT employeeNumber FROM employees WHERE firstName = 'Leslie'

AND lastName = 'Jennings'

)

)
)
)
)
)
;
```

Your Result

FOR JAN 2005

FOR FEB 2005

```
mysql> source challenge08.sql
 productName
                                           | productVendor
 1936 Mercedes-Benz 500K Special Roadster | Studio M Art Models
 1913 Ford Model T Speedster
                                          | Carousel DieCast Legends
 1934 Ford V8 Coupe
                                          | Min Lin Diecast
 18th Century Vintage Horse Carriage
                                          | Red Start Diecast
 1917 Maxwell Touring Car
                                          | Exoto Designs
 1939 Cadillac Limousine
                                          | Studio M Art Models
 1912 Ford Model T Delivery Wagon
                                          | Min Lin Diecast
 1940 Ford Delivery Sedan
                                          | Carousel DieCast Legends |
 1936 Chrysler Airflow
                                          | Second Gear Diecast
9 rows in set (0.00 sec)
```