
Unit 05 Problem Set Submission Form

Overview

Your Name	Nirali Kabli
Your SU Email	nkabli@syr.edu

Instructions

Put your name and SU email at the top. Answer these questions all from the lab. When asked to include screenshots, please follow the screen shot guidelines from the first lab.

Remember as you complete the problem sets it is not only about getting it right / correct. We will discuss the answers in class so it's important to articulate anything you would like to contribute to the discussion in your answer:

- If you feel the question is vague, include any assumptions you've made.
- If you feel the answer requires interpretation or justification provide it.
- If you do not know the answer to the question, articulate what you tried and how you are stuck.

This how you receive credit for answering questions which might not be correct.

Questions

Answer these questions using the problem set submission template. You will need to consult the logical model in the overview section for details. For any screenshots provided, please follow the guidelines for submitting a screenshot.

Write the following as SQL queries. If the query is ambiguous, fill in the gaps yourself and justify your reasoning. For each, include the SQL as a screenshot with the output of the query.

1. The GIS department would like to get a list of latitudes and longitudes of those vBay users who make valid bids on items and review users also. These are considered active participants in the platform and they would like to plot them on a map for a real-time dashboard.

SQLQuery_1 - localhost.vbay (sa)

```

1 select user_id, user_firstname + ' ' + user_lastname as username, zip_lat, zip_lng from vb_zip_codes z
2 join vb_users u on u.user_zip_code = z.zip_code
3 join vb_bids b on b.bid_user_id = u.user_id
4 join vb_user_ratings v on v.rating_by_user_id = u.user_id
5 where b.bid_status = 'ok'

```

	user_id	username	zip_lat	zip_lng
1	25	Carrie Dababbi	42.8800	-78.8500
2	25	Carrie Dababbi	42.8800	-78.8500
3	24	Al Fresco	44.3400	-106.7100
4	24	Al Fresco	44.3400	-106.7100
5	24	Al Fresco	44.3400	-106.7100
6	23	Dan Delyons	44.0100	-92.4700
7	23	Dan Delyons	44.0100	-92.4700
8	23	Dan Delyons	44.0100	-92.4700
9	23	Dan Delyons	44.0100	-92.4700
10	21	Jean Poole	39.8400	-82.6000
11	21	Jean Poole	39.8400	-82.6000
12	21	Jean Poole	39.8400	-82.6000
13	20	Hank Erchief	43.0400	-76.1400
14	20	Hank Erchief	43.0400	-76.1400
15	19	Oliver Stuffission	43.0400	-76.1400
16	19	Oliver Stuffission	43.0400	-76.1400
17	17	Otto Moni	40.7100	-73.9900
18	17	Otto Moni	40.7100	-73.9900
19	16	Pete Moss	42.2500	-77.7800
20	16	Pete Moss	42.2500	-77.7800
21	15	Seymour Ofewe	40.7100	-73.9900
22	15	Seymour Ofewe	40.7100	-73.9900

2. Northwind Traders would like to send out holiday cards to its Employees, Customers and Suppliers. Create a single mailing list from these sources. The mailing address should have 4 lines:
 - 0) a label of the source of the address: Employee, Customer, or Supplier
 - 1) customer name and title,
 - 2) company,
 - 3) address, City, Region, Country, postal code

SQLQuery_2 - localhost.northwind (sa)

```

1 select 'employee' as Label ,FirstName + ' ' + LastName as Name,Title,'NorthWind' as CompanyName,Address,City, Region, Country,PostalCode from Employees
2 UNION
3 select 'Customers' ,ContactName,ContactTitle,CompanyName,Address,City,Region,Country,PostalCode from Customers
4 UNION
5 SELECT 'Suppliers' ,ContactName,ContactTitle,CompanyName,Address,City,Region,Country,PostalCode from Suppliers

```

Results Messages

	Label	Name	Title	CompanyName	Address	City	Region	Country	PostalCode
1	Customers	Alejandra Camino	Accounting Manager	Romero y tomillio	Gran Vía, 1	Madrid	NULL	Spain	28001
2	Customers	Alexander Feuer	Marketing Assistant	Morgenstern Gesundkost	Heerstr. 22	Leipzig	NULL	Germany	04179
3	Customers	Ana Trujillo	Owner	Ana Trujillo Emparedados y	Avda. de la Constitución 1	México D.F.	NULL	Mexico	05021
4	Customers	Anabela Domingues	Sales Representative	Tradição Hipermercados	Av. Inês de Castro, 414	Sao Paulo	SP	Brazil	05634-030
5	Customers	André Fonseca	Sales Associate	Gourmet Lanchonetes	Av. Brasil, 442	Campinas	SP	Brazil	04876-786
6	Customers	Ann Devon	Sales Agent	Eastern Connection	35 King George	London	NULL	UK	WX3 6FW
7	Customers	Annette Roulet	Sales Manager	La maison d'Asie	1 rue Alsace-Lorraine	Toulouse	NULL	France	31000
8	Customers	Antonio Moreno	Owner	Antonio Moreno Taquería	Mataderos 2312	México D.F.	NULL	Mexico	05023
9	Customers	Aria Cruz	Marketing Assistant	Familia Arquibaldo	Rua Orós, 92	Sao Paulo	SP	Brazil	05442-030
10	Customers	Art Braunschweiger	Sales Manager	Split Rail Beer & Ale	P.O. Box 555	Lander	WY	USA	82520
11	Customers	Bernardo Batista	Accounting Manager	Que Delícia	Rua da Panificadora, 12	Rio de Janeiro	RJ	Brazil	02389-673
12	Customers	Carine Schmitt	Marketing Manager	France restauration	54, rue Royale	Nantes	NULL	France	44000
13	Customers	Carlos González	Accounting Manager	LILA-Supermercado	Carrera 52 con Ave. Bolívar	Barquisimeto	Lara	Venezuela	3508
14	Customers	Carlos Hernández	Sales Representative	HILARION-Abastos	Carrera 22 con Ave. Carlos	San Cristóbal	Táchira	Venezuela	5022
15	Customers	Catherine Dewey	Sales Agent	Maison Dewey	Rue Joseph-Bens 532	Bruxelles	NULL	Belgium	B-1180
16	Customers	Christina Berglund	Order Administrator	Berglunds snabbköp	Berguvsvägen 8	Luleå	NULL	Sweden	S-958 22
17	Customers	Daniel Tonini	Sales Representative	La corne d'abondance	67, avenue de l'Europe	Versailles	NULL	France	78000
18	Customers	Diego Roel	Accounting Manager	FISSA Fabrica Inter. Sal...	C/ Morazarzal, 86	Madrid			
19	Customers	Dominique Perrier	Marketing Manager	Spécialités du monde	25, rue Lauriston	Paris			
20	Customers	Eduardo Saavedra	Marketing Manager	Galería del gastrónomo	Rambla de Cataluña, 23	Barcelona			
21	Customers	Elizabeth Brown	Sales Representative	Consolidated Holdings	Berkeley Gardens 12 Brew...	London			
22	Customers	Elizabeth Lincoln	Accounting Manager	Bottom-Dollar Markets	23 Tsawassen Blvd.	Tsawassen			

3. vBay would like a list of items with item id name and type along with a count of bids with bid type (ok, low_bid, item_seller). There should be a column for each of the bid types.

SQLQuery_1 - localhost.vbay (sa)

```

7 with bid as (
8   select item_id,item_name,item_type,bid_status from vb_items
9   join vb_bids on bid_item_id=item_id
10 )
11 select item_id,item_name,item_type,ok,low_bid,item_seller from bid
12 PIVOT(count(bid_status) FOR bid_status in (ok,low_bid,item_seller)) as pivot_query

```

Results Messages

	item_id	item_name	item_type	ok	low_bid	item_seller
1	1	Used Pink Bathrobe	All Other	4	1	1
2	2	Rare Mint Snow Globe	Collectables	2	1	0
3	3	Smurf TV Tray	Collectables	1	0	0
4	5	Alf Alarm Clock	Collectables	1	0	0
5	6	Shatner's old Toupee	Collectables	3	0	2
6	7	Slightly-damaged Golf Bag	Sporting Goods	3	0	0
7	8	Some Beanie Babies, New w...	Collectables	1	0	0
8	11	Dukes Of Hazard ashtray	Collectables	8	1	0
9	13	case of vintage tube socks	Antiques	2	0	0
10	14	Kleenex used by Dr. Dre	Collectables	1	0	0
11	15	Farrar Fawcett poster	Collectables	3	0	0
12	16	Pez dispensers	Collectables	1	1	0
13	18	Antique Desk	Antiques	5	1	0
14	19	SQL for Dummies	Books	1	0	0
15	22	Fuzzy Logic	Books	1	0	0
16	23	Dusty Vase	Antiques	6	0	0
17	24	Old Diamond Ring	Jewelry	2	0	0
18	26	Joe Montana Figurine	Collectables	1	0	0
19	32	Ten Speed Bike	Sporting Goods	10	0	0
20	33	Original Coke Bottle from...	Antiques	1	0	0
21	34	Client/Server Survival Gu...	Books	1	0	0

- Northwind traders has 3 different shippers. For each customer ID and CompanyName list the total amount of shipping freight paid for each of the three different shippers. There should be a column for each shipper.

The screenshot shows a SQL Server Enterprise Manager window with a query executed against the Northwind database. The query is as follows:

```

13 with abc as (
14 select o.CustomerID, c.CompanyName, o.Freight, s.CompanyName as shippercompany from Orders o
15 join Shippers s on o.ShipVia = s.ShipperID
16 join Customers c on o.CustomerID = c.CustomerID
17 )
18 select * from abc
19 PIVOT (sum(Freight) for shippercompany in ("Speedy Express", "United Packages", "Federal Shipping")) AS pivot_query

```

The results are displayed in a table with the following columns: CustomerID, CompanyName, Speedy Express, United Packages, and Federal Shipping. The table contains 21 rows of data, showing the total freight paid for each customer by each shipper.

CustomerID	CompanyName	Speedy Express	United Packages	Federal Shipping
1	ALFKI	95.0300	NULL	69.5300
2	ANATR	43.9000	NULL	53.5200
3	ANTON	63.0900	NULL	88.8700
4	AROUT	41.9500	NULL	71.4600
5	BERGS	189.4400	NULL	295.5700
6	BLAUS	0.1500	NULL	41.9200
7	BLONP	217.9600	NULL	198.0000
8	BOLID	16.1600	NULL	NULL
9	BONAP	341.1600	NULL	597.1400
10	BOTTM	129.4200	NULL	502.3600
11	BSBEV	NULL	NULL	152.0500
12	CACTU	3.1700	NULL	52.3700
13	CENTC	NULL	NULL	3.2500
14	CHOPS	171.6800	NULL	123.1900
15	COMMI	121.6200	NULL	NULL
16	CONSH	6.1700	NULL	NULL
17	WANDK	170.5800	NULL	NULL
18	DRACD	79.2500	NULL	185.4600
19	DUMON	37.1600	NULL	24.6900
20	EASTC	348.3700	NULL	285.0100
21	ERNSH	2004.7400	NULL	1588.8900

- Unpivot all the dates in the Northwind orders table, creating a table output with three columns: order id, type of date (ship date, require date, order date) and the date itself.

Run Cancel Disconnect Change Connection northwind Explain Enable SQLCMD Export as Notebook

```

1 SELECT o.OrderID, o.Date, o.[Type of Date]
2 FROM dbo.Orders od
3 UNPIVOT(
4     Date for [Type of Date] in (ShippedDate, RequiredDate, OrderDate)
5 ) o;
6

```

Results Messages

	OrderID	Date	Type of Date
1	10248	1996-07-16 00:00:00.000	ShippedDate
2	10248	1996-08-01 00:00:00.000	RequiredDate
3	10248	1996-07-04 00:00:00.000	OrderDate
4	10249	1996-07-10 00:00:00.000	ShippedDate
5	10249	1996-08-16 00:00:00.000	RequiredDate
6	10249	1996-07-05 00:00:00.000	OrderDate
7	10250	1996-07-12 00:00:00.000	ShippedDate
8	10250	1996-08-05 00:00:00.000	RequiredDate
9	10250	1996-07-08 00:00:00.000	OrderDate
10	10251	1996-07-15 00:00:00.000	ShippedDate
11	10251	1996-08-05 00:00:00.000	RequiredDate
12	10251	1996-07-08 00:00:00.000	OrderDate
13	10252	1996-07-11 00:00:00.000	ShippedDate
14	10252	1996-08-06 00:00:00.000	RequiredDate
15	10252	1996-07-09 00:00:00.000	OrderDate
16	10253	1996-07-16 00:00:00.000	ShippedDate
17	10253	1996-07-24 00:00:00.000	RequiredDate

Ln 6, Col 1 Spaces:

nkabli
9/11/21 961435477
Notes

September 11, 2021 at 10:22 PM
nkabli
961435477

- Unpivot the FudgeFlix titles which are just Movies so that it is easier to query titles which are available in different formats such as instant, DVD, and Blu-ray. Flatten these three columns into a single column with types, but only include a row when the value is 1 in the column.

SQLQuery_4 - localhost:fudgefix_v3 (sa)

```

1 select title_name,m_format from ff_titles
2 UNPIVOT(value for m_format in (title_bluray_available,title_dvd_available,title_instant_available)) as unpivot_query
3 order by title_name

```

title_id	title_name	m_format
1	\$5 a Day	title_bluray_available
2	\$5 a Day	title_dvd_available
3	\$5 a Day	title_instant_available
4	\$9.99	title_bluray_available
5	\$9.99	title_dvd_available
6	\$9.99	title_instant_available
7	'night, M.	title_bluray_available
8	'night, M.	title_dvd_available
9	'night, M.	title_instant_available
1.	'Til Ther.	title_bluray_available
1.	'Til Ther.	title_dvd_available
1.	'Til Ther.	title_instant_available
1.	(500) Day.	title_bluray_available
1.	(500) Day.	title_dvd_available
1.	(500) Day.	title_instant_available
1.	.45	title_bluray_available
1.	.45	title_dvd_available
1.	.45	title_instant_available
1.	1 a Minute	title_bluray_available
2.	1 a Minute	title_dvd_available
2.	1 a Minute	title_instant_available
2.	10 Dead M.	title_bluray_available
2.	10 Dead M.	title_dvd_available
2.	10 Dead M.	title_instant_available

7. Get a list of the employees from the payroll database as they were on May 31, 2018.

Notes File Edit Format View Window Help

SQLQuery_5 - localhost.payroll (sa)

localhost SQLQuery_1 - localh...nd (sa) 9+ SQLQuery_3 - localh...nd (sa) 4 SQLQuery_2 - localh...ay (sa) 9+ SQLQuery_4 - localh...v3 (sa) SQLQuery_5 - localh...ll (sa)

Run Cancel Disconnect Change Connection payroll Explain Enable SQLCMD Export as Notebook

```

1 select * from EMPLOYEES for
2 SYSTEM_TIME AS OF '2018-05-31'

```

Results Messages

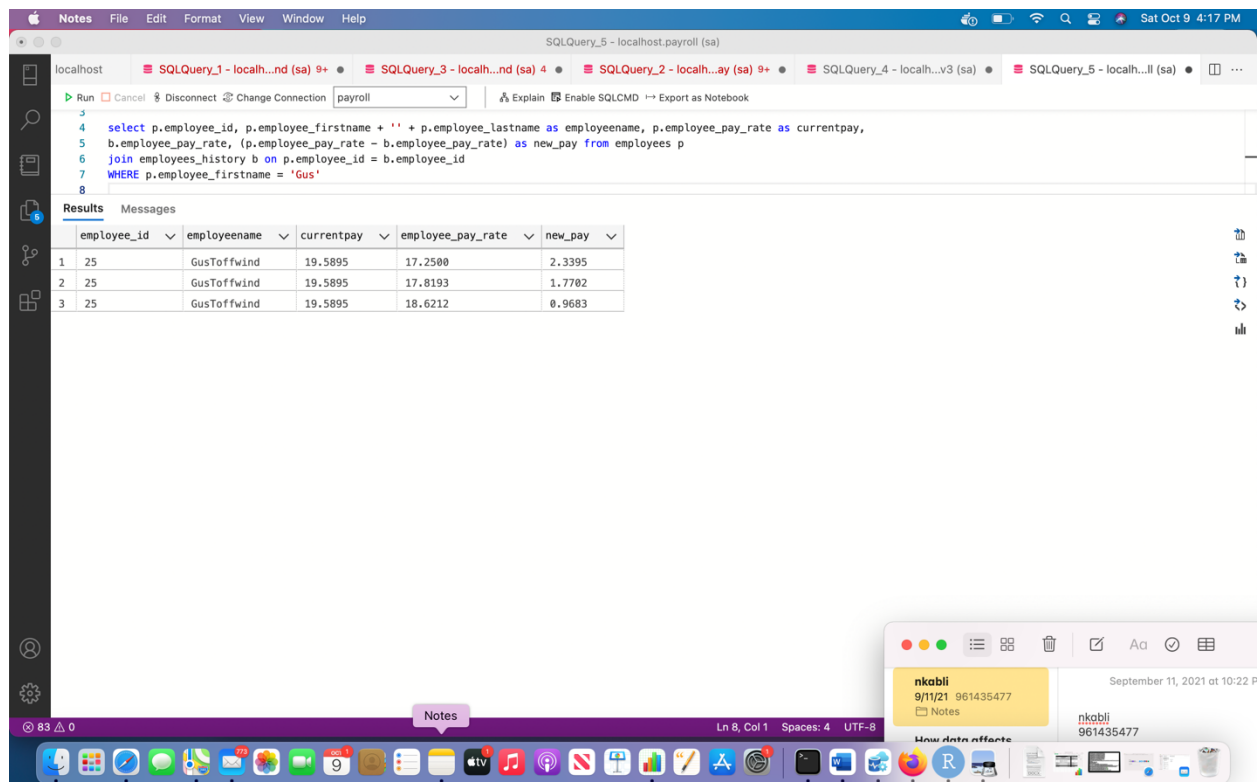
	employee_id	employee_ssn	employee_...	employee_...	employee_...	employee_...	employee_...	employee_...	employee_...	employee_...	va
1	46	991-56-8931	June	Nipper	2017-05-01 00...	NULL	Sales Associa...	Customer Serv...	17.0940	5	
2	54	777-43-2728	Alma	Frienzergon	2015-07-01 00...	NULL	Sales Associa...	Customer Serv...	18.4778	5	
3	27	520-62-3750	Artie	Choke	2015-07-01 00...	NULL	Sales Associa...	Customer Serv...	18.5940	5	
4	5	151-91-9536	Willie	Pas-D'course	2013-12-01 00...	NULL	Department Ma...	Customer Serv...	1020.0961	3	
5	47	817-49-5922	Sue	Mii	2014-05-01 00...	NULL	Sales Associa...	Hardware	18.8705	7	
6	1	123-45-6789	Michael	Fudge	2010-04-01 00...	NULL	Owner	Customer Serv...	2480.7693	NULL	
7	22	369-37-9012	Aiden	Knowone	2016-04-01 00...	NULL	Sales Associa...	Sporting Goods	18.1125	9	
8	7	363-47-6635	Eileen	Touda-Left	2013-10-01 00...	NULL	Department Ma...	Hardware	1045.9616	2	
9	36	140-63-5030	Ally	Gator	2013-06-01 00...	NULL	Sales Associa...	Toys	17.3195	10	
1..	43	495-41-3173	Eura	Lyre	2014-02-01 00...	NULL	Sales Associa...	Clothing	19.4250	4	
1..	52	151-82-5640	Jin	Netics	2015-06-01 00...	NULL	Sales Associa...	Customer Serv...	17.8020	5	
1..	6	189-32-2043	Bob	Enweave	2013-02-01 00...	NULL	Department Ma...	Electronics	1042.9327	3	
1..	55	781-00-9353	Adam	Antium	2016-06-01 00...	NULL	Sales Associa...	Electronics	19.1660	6	
1..	26	415-79-2532	Anita	Favor	2016-10-01 00...	NULL	Sales Associa...	Sporting Goods	17.9055	9	
1..	30	098-24-5706	Sandy	Beeches	2015-06-01 00...	NULL	Sales Associa...	Hardware	16.3170	7	
1..	33	093-29-8015	Hugh	Japple	2016-09-01 00...	NULL	Sales Associa...	Toys	18.6840	10	
1..	39	512-08-0512	Tim	Idd	2014-06-01 00...	NULL	Sales Associa...	Sporting Goods	17.5270	9	
1..	34	041-48-3728	Misty	Meadows	2014-07-01 00...	NULL	Sales Associa...	Toys	18.1125	10	
1..	48	842-53-5067	Willow	Wisp	2014-05-01 00...	NULL	Sales Associa...	Housewares	18.1125	8	
2..	21	137-92-4533	Isabelle	Gunninger	2015-04-01 00...	NULL	Sales Associa...	Hardware	17.3195	7	
2..	2	958-76-7513	Amber	Wavesofgrain	2012-05-01 00...	NULL	Store Manager				
2..	49	434-67-0804	Ty	Anott	2016-04-01 00...	NULL	Sales Associa...				
2..	24	778-63-2969	Anita	Sandwich	2016-07-01 00...	NULL	Sales Associa...				
2..	20	084-91-2754	Gail	Forcewynds	2017-03-01 00...	NULL	Sales Associa...				
2..	10	876-00-0202	Val	Idation	2012-05-01 00...	NULL	Department Ma...				

Ln 2, Col 8 Spaces: 4 UTF-8

nkabli 9/11/21 961435477 Notes Start Page 961435477

September 11, 2021 at 10:22 P

- Produce a report of Gus Toffwind's pay increases from the payroll database. Include the id, name SSN of the employee along with pay rate, previous pay rate and pay increase (difference between the current and previous pay rates).



Reflection

Use this section to reflect on your learning. To achieve the highest grade on the assignment you must be as descriptive and personal as possible with your reflection.

1. What are the key things you learned through the process of completing this assignment?

The key takeaways I learnt from this assignment were:

- Usage of aggregate functions with groupby and having clauses
- Using the WITH statement to reduce query complexity for various databases for example northwind to list the total amount of shipping freight for each shipper
- Using Window functions in addition to PIVOT, UNPIVOT operations which were implemented during the experiment, for example to unpivot the dates and then display the table output with only three specific columns, one of which was type of date that reflected the ship date, order date and require date.

2. What were the challenges or roadblocks (if any) you encountered on the way to completing it?

There were no challenges faced as such during the lab, and I was able to rectify and troubleshoot some minor errors I faced while unpivoting the data with the detailed explanation from the textbook on how to unpivot our data.

3. Were you prepared for this assignment? What can you do to be better prepared?

Yes, I was prepared for the assignment as before beginning I made sure to watch the required video lesson plus read the complete chapter from the textbook, then go through the lab overview

and finally start implementing which is why the whole assignment ,parts with the pivoting, unpivoting went smoothly for me.

4. Now that you have completed the assignment rate your comfort level with this week's material. This should be an honest assessment: (choose one)

4 ==> I understand this material and can explain it to others.

3 ==> I understand this material.

2 ==> I somewhat understand the material but sometimes need guidance from others.

1 ==> I understand very little of this material and need extra help.