

# Unit 06 Problem Set Submission Form

## Overview

Your Name	Bhavya Shah
Your SU Email	bhshah@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.

Run

Cancel

Disconnect

Change Connection

vbay

Estimated Plan

Enable Actual

```

1 select z.zip_lat, z.zip_lng, u.user_firstname + ' ' + u.user_lastname as user_fullname
2 from vb_users u
3 join vb_zip_codes z on u.user_zip_code = z.zip_code
4 join vb_bids b on b.bid_user_id = u.user_id
5 join vb_user_ratings r on r.rating_by_user_id = u.user_id
6 where bid_status = 'ok'
7 group by z.zip_lat, z.zip_lng, u.user_firstname + ' ' + u.user_lastname
8 order by u.user_firstname + ' ' + u.user_lastname, z.zip_lat, z.zip_lng

```

Results

Messages

	zip_lat	zip_lng	user_fullname
1	37.7200	-122.4400	Abby Kuss
2	44.3400	-106.7100	Al Fresco
3	33.4300	-86.0900	Anne Dewey
4	33.3800	-111.8700	Barb Barion
5	37.3200	-121.9100	Barry DeHatchett
6	33.1000	-84.3400	Bo Enarreau
7	42.8800	-78.8500	Carrie Dababbi
8	44.0100	-92.4700	Dan Delyons
9	38.3200	-122.6400	Gus Toffwind
10	43.0400	-76.1400	Hank Erchief
11	37.3200	-121.9100	Isabelle Gunnering
12	39.8400	-82.6000	Jean Poole
13	35.0600	-85.2500	Les Ismoore
14	43.0400	-76.1400	Martin Eyezing
15	43.0400	-76.1400	Oliver Stuffismis...

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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

Run
Cancel
Disconnect
Change Connection
northwind
Estimated Plan
Enable Actual Plan
Enable SQLCMD
Export as Notebook

```

1 select 'Employee' as Emp_type, Firstname + ' ' + Lastname as FullName, Title, 'random' as CompanyName, Address, City, Region, Country, Postalcode
2 from Employees
3 union all
4 select 'Customers' as Cus_type, Contactname, ContactTitle, CompanyName, Address, City, Region, Country, Postalcode
5 from Customers
6 union all
7 select 'Suppliers' as Sup_type, Contactname, ContactTitle, CompanyName, Address, City, Region, Country, Postalcode
8 from Suppliers

```

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Results Messages

	Emp_type	FullName	Title	CompanyName	Address	City	Region
1	Employee	Nancy Davolio	Sales Representative	random	507 - 20th Ave. E. Apt. 2A	Seattle	WA
2	Employee	Andrew Fuller	Vice President, Sales	random	908 W. Capital Way	Tacoma	WA
3	Employee	Janet Leverling	Sales Representative	random	722 Moss Bay Blvd.	Kirkland	WA
4	Employee	Margaret Peacock	Sales Representative	random	4110 Old Redmond Rd.	Redmond	WA
5	Employee	Steven Buchanan	Sales Manager	random	14 Garrett Hill	London	NULL
6	Employee	Michael Suyama	Sales Representative	random	Coventry House Miner Rd.	London	NULL
7	Employee	Robert King	Sales Representative	random	Edgeham Hollow Winchester Way	London	NULL
8	Employee	Laura Callahan	Inside Sales Coordinator	random	4726 - 11th Ave. N.E.	Seattle	WA
9	Employee	Anne Dodsworth	Sales Representative	random	7 Houndstooth Rd.	London	NULL
10	Customers	Maria Anders	Sales Representative	Alfreds Futterkiste	Obere Str. 57	Berlin	NULL
11	Customers	Ana Trujillo	Owner	Ana Trujillo Emparedados y h...	Avda. de la Constitución 2222	México D.F.	NULL
12	Customers	Antonio Moreno	Owner	Antonio Moreno Taquería	Mataderos 2312	México D.F.	NULL
13	Customers	Thomas Hardy	Sales Representative	Around the Horn	120 Hanover Sq.	London	NULL
14	Customers	Christina Berglund	Order Administrator	Berglunds snabbköp	Berguvsvägen 8	Luleå	NULL
15	Customers	Hanna Moos	Sales Representative	Blauer See Delikatessen	Forsterstr. 57	Mannheim	NULL

- 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.

Run Cancel Disconnect Change Connection vbay Estimated Plan Enable Actual Plan Enable S

```

1 with pivot_source as(
2     select i.item_id, i.item_name, i.item_type, vb_bids.bid_status
3     from vb_items i
4     join vb_bids on vb_bids.bid_item_id = i.item_id)
5 select * from pivot_source PIVOT(
6     count(bid_status) for bid_status in (ok, low_bid,item_seller))
7 as pivot_table

```

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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 with...	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	Farrah Fawcet 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	5	0	0

4. 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.

Run Cancel Disconnect Change Connection northwind Estimated Plan Enable Actual Plan Enable S

```

1 with source_of_pivot as(
2     select c.CustomerID, c.CompanyName, s.CompanyName as Company, o.Freight
3     from customers c
4     join Orders o on o.CustomerID = c.CustomerID
5     join Shippers s on s.ShipperID = o.ShipVia)
6 select * from source_of_pivot PIVOT(
7     sum(Freight) for Company in ([Speedy Express],[United Package], [Federal Shipping]))
8 as pivot_table

```

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Results Messages

	CustomerID	CompanyName	Speedy Express	United Package	Federal Shipping
1	ALFKI	Alfreds Futterkiste	95.03	61.02	69.53
2	ANATR	Ana Trujillo Emparedados y h...	43.90	NULL	53.52
3	ANTON	Antonio Moreno Taquería	63.09	116.56	88.87
4	AROUT	Around the Horn	41.95	358.54	71.46
5	BERGS	Berglunds snabbköp	189.44	1074.51	295.57
6	BLAUS	Blauer See Delikatessen	0.15	126.19	41.92
7	BLONP	Blondesd'sl père et fils	217.96	215.70	190.00
8	BOLID	Bólido Comidas preparadas	16.16	175.01	NULL
9	BONAP	Bon app'	341.16	419.57	597.14
10	BOTTM	Bottom-Dollar Markets	129.42	162.17	502.36
11	BSBEV	B's Beverages	NULL	129.26	152.05
12	CACTU	Cactus Comidas para llevar	3.17	17.22	52.37
13	CENTC	Centro comercial Moctezuma	NULL	NULL	3.25
14	CHOPS	Chop-suey Chinese	171.68	72.37	123.19
15	COMMI	Comércio Mineiro	121.62	66.20	NULL
16	CONCH	Consolidated Holdings	6.43	47.45	NULL

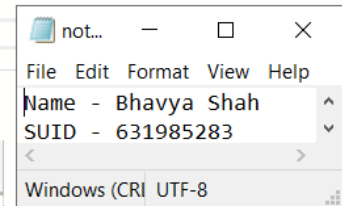
- Unpivot all the dates in the Northwind orders table, creating a table output with three columns: order id, type of date (ship date, require date, order date) and the date itself.

```

1 with order_unpivot as (
2   select OrderID, Order_Date, type_of_order
3   from Orders unpivot(
4     Order_Date for type_of_order in(OrderDate, RequiredDate, ShippedDate))
5 as unpivot_table
6 ) select * from order_unpivot

```

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



- 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.

Run

Cancel

Disconnect

Change Connection

fudgeflix\_v3

Estimated PI

```
1 select title name, type_of_movie_format from ff titles
2 unpivot(
3     movie_format for type_of_movie_format in(
4         title_instant_available, title_dvd_available, title_bluray_available)
5 ) as unpivot_table
6 where title_type = 'Movie' and movie_format = 1
```

Results

Messages

	title_name	type_of_movie_format
1	Meet Joe Black	title_dvd_available
2	Vampires	title_dvd_available
3	Eyes Wide Shut	title_dvd_available
4	Eyes Wide Shut	title_bluray_available
5	U.S. Marshals	title_instant_available
6	U.S. Marshals	title_dvd_available
7	The Mighty	title_dvd_available
8	Dark City	title_dvd_available
9	B Monkey	title_dvd_available
10	The Horse Whisperer	title_dvd_available
11	Armageddon	title_dvd_available
12	Armageddon	title_bluray_available
13	Pleasantville	title_dvd_available
14	The Red Violin	title_dvd_available
15	Apt Pupil	title_dvd_available
16	Velvet Goldmine	title_dvd_available
17	Sesame Street: Elmo Saves Ch	title_dvd_available

not...

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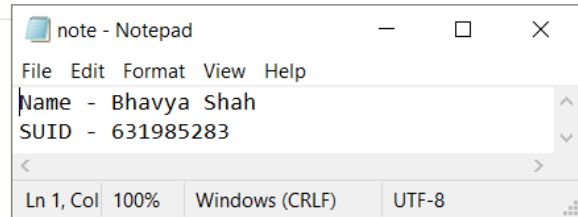
7. Get a list of the employees from the payroll database as they were on May 31, 2018.

```

1 select employee_id, employee_firstname + ' ' + employee_lastname as name
2 from employees
3 for system_time As of '2018-05-31'

```

Results		Messages
	employee_id	name
3	27	Artie Choke
4	5	Willie Pas-D'course
5	47	Sue Mii
6	1	Michael Fudge
7	22	Aiden Knowone
8	7	Eileen Touda-Left
9	36	Ally Gator
10	43	Eura Lyre
11	52	Jin Netics
12	6	Bob Enweave
13	55	Adam Antium
14	26	Anita Favor
15	30	Sandy Beeches
16	33	Hugh Japple
17	39	Tim Idd
18	34	Misty Meadows
19	48	Willow Wisp
20	21	Isabelle Gunnering
21	2	Amber Wavesofgrain



8. 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).

```

1 select employee_id, employee_firstname, employee_lastname, employee_ssn, employee_pay_rate As recent_pay, LAG(employee_pay_rate)
2 OVER (order by employee_pay_rate) as previous_pay, employee_pay_rate-LAG(employee_pay_rate,1)
3 OVER (order by employee_pay_rate) as pay_difference
4 from employees_history
5 where employee_firstname like 'Gus%'

```

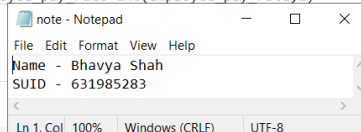
Results

Messages

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	employee_id	employee_firstname	employee_lastname	employee_ssn	recent_pay	previous_pay	pay_difference
1	25	Gus	Toffwind	638-22-3313	17.25	NULL	NULL
2	25	Gus	Toffwind	638-22-3313	17.8193	17.25	0.5693
3	25	Gus	Toffwind	638-22-3313	18.6212	17.8193	0.8019



## 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?  
Ans: pivot and unpivot tables.
2. What were the challenges or roadblocks (if any) you encountered on the way to completing it?  
Ans: none
3. Were you prepared for this assignment? What can you do to be better prepared?  
Ans: Yes. I watched the videos which helped me in this assignment.
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)

3 ==> I understand this material.