Unit 05 Problem Set Submission Form

Overview

Your Name	Hendi Kushta
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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.

```
USE vbay

-- make valid bids means the USErs are buyers ????

    SELECT DISTINCT zip_lat, zip_lng, USEr_firstname
        FROM vb_zip_codes
            JOIN vb_USErs ON zip_code = USEr_zip_code
            JOIN vb_bids ON bid_USEr_id = USEr_id
           -- JOIN vb_USEr_ratings urs on urs.rating_by_USEr_id = USEr_id
            JOIN vb_USEr_ratings urb ON urb.rating_by_USEr_id = USEr_id
        WHERE bid_status = 'ok' AND urb.rating_value != 0 -- review users meaning no review less than 0 ??

GO
```

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	zip_lat	zip_lng	USEr_firstname
1	33.1000	-84.3400	Bo
2	33.3800	-111.8700	Barb
3	33.4300	-86.0900	Anne
4	35.0600	-85.2500	Les
5	37.3200	-121.9100	Barry

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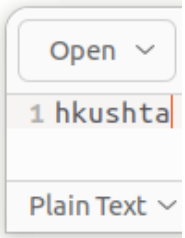
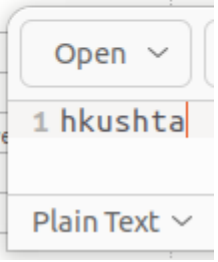
2. Northwind Traders would like to send out holiday cards to its Employees, Customers and Suppliers. Create a single mailing list from these sources. The mailing address should have 4 lines:
   0) a label of the source of the address: Employee, Customer, or Supplier
   1) customer name and title,
  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

```sql
USE northwind

GO

-- Since the question requires only 4 lines  address, City, Region, Country, postal code
-- are in the same row.
-- Some of the rows are not completed, for example there are many null values of region,
-- and when we concatenate this columns, they we show up as null.

SELECT
        'Employee' AS source,
        FirstName + ' ' + LastName + ' ' + Title AS name_and_title,
        'Northwind' AS company,
        Address + ' ' + City + ' ' + Region + ' ' + Country + ' ' + PostalCode AS full_address
    FROM Employees

UNION ALL

SELECT
        'Customer' AS source,
        ContactName + ' ' + ContactTitle AS name_and_title,
        CompanyName AS company,
        Address + ' ' + City + ' ' + Region + ' ' + Country + ' ' + PostalCode AS full_address
    FROM Customers

UNION ALL

SELECT
        'Supplier' AS source,
        ContactName + ' ' + ContactTitle AS name_and_title,
        CompanyName AS company,
        Address + ' ' + City + ' ' + Region + ' ' + Country + ' ' + PostalCode AS full_address
    FROM Suppliers

GO
```

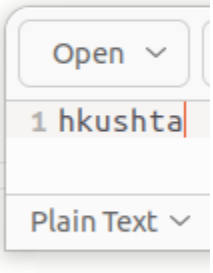


	source	name_and_title	company	full_address
1	Employee	Nancy Davolio Sales Repre…	Northwind	507 - 20th Ave. E. Apt. 2…
2	Employee	Andrew Fuller Vice Presid…	Northwind	908 W. Capital Way Tacoma…
3	Employee	Janet Leverling Sales Rep…	Northwind	722 Moss Bay Blvd. Kirkla…
4	Employee	Margaret Peacock Sales Re…	Northwind	4110 Old Redmond Rd. Redm…
5	Employee	Steven Buchanan Sales Man…	Northwind	*NULL*
6	Employee	Michael Suyama Sales Repr…	Northwind	*NULL*
7	Employee	Robert King Sales Represe…	Northwind	*NULL*
8	Employee	Laura Callahan Inside Sal…	Northwind	4726 - 11th Ave
9	Employee	Anne Dodsworth Sales Repr…	Northwind	*NULL*
10	Customer	Maria Anders Sales Repres…	Alfreds F…	*NULL*
11	Customer	Ana Trujillo Owner	Ana Truji…	*NULL*

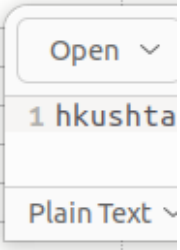


3. vBay would like a list of items with item id name and type along with a count of bids with bid
type (ok, low_bid, item_seller). There should be a column for each of the bid types.

```
USE vbay

GO

WITH pivot_source AS (
    SELECT
        i.item_id,
        i.item_name,
        i.item_type,
        b.bid_status
    FROM vb_items i
    JOIN vb_bids b ON b.bid_item_id = i.item_id
)
SELECT
    item_id,
    item_name,
    item_type,
    ok,
    low_bid,
    item_seller
FROM pivot_source PIVOT (
    COUNT(bid_status) for bid_status IN (ok, low_bid, item_seller)
) AS pivot_query

GO
```

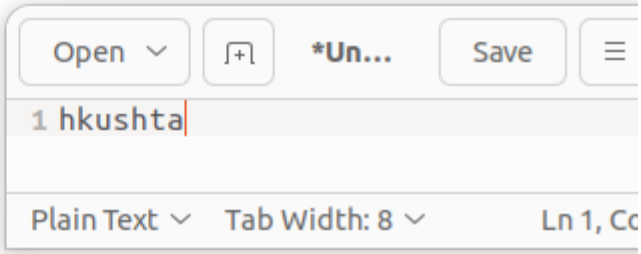


	item_id	item_name	item_type	ok	low_bid	item_seller
1	1	Used Pink Bathrobe	All Other	4	1	1
2	2	Rare Mint Snow Globe	Collectables	2	1	0
3	3	Smurf TV Tray	Collectables	1	0	0
4	5	Alf Alarm Clock	Collectables	1	0	0
5	6	Shatner's old Toupee	Collectables	3	0	2
6	7	Slightly-damaged Golf Bag	Sporting Goods	3	0	0
7	8	Some Beanie Babies, New …	Collectables	1	0	0
8	11	Dukes Of Hazard ashtray	Collectables	8	1	0
9	13	case of vintage tube soc	Antiques	2	0	0

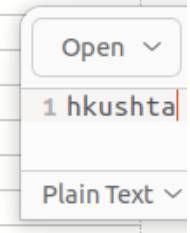


4. Northwind traders has 3 different shippers. For each customer ID and CompanyName list the total amount of shipping freight paid for each of the three different shippers. There should be a column for each shipper.

```
USE northwind

GO

WITH pivot_source AS (
    SELECT
        c.CustomerID,
        c.CompanyName,
        o.Freight,
        s.CompanyName AS shipping_company
    FROM Shippers s
    JOIN Orders o ON o.ShipVia = s.ShipperID
    JOIN Customers c ON c.CustomerID = o.CustomerID
)
SELECT
    CustomerID,
    CompanyName,
    [Speedy Express],
    [United Package],
    [Federal Shipping]
FROM pivot_source PIVOT (
    SUM(freight) for shipping_company IN ([Speedy Express], [United Package], [Federal Shipping])
) AS pivot_query

GO
```

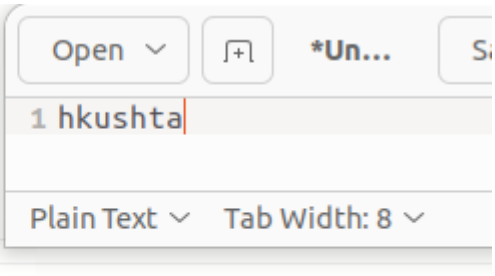


	CustomerID	CompanyName	Speedy Express	United Package	Federal Shipping
1	ALFKI	Alfreds Futterkiste	95.03	61.02	69.53
2	ANATR	Ana Trujillo Emparedados …	43.90	*NULL*	53.52
3	ANTON	Antonio Moreno Taquería	63.09	116.56	88.87
4	AROUT	Around the Horn	41.95	358.54	71.46
5	BERGS	Berglunds snabbköp	189.44	1074.51	295.57
6	BLAUS	Blauer See Delikatessen	0.15	126.19	41.92
7	BLONP	Blondesddsl 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

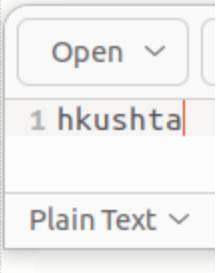


5. Unpivot all the dates in the Northwind orders table, creating a table output with three columns: order id, type of date (ship date, require date, order date) and the date itself.

```
WITH unpivot_source AS (
    SELECT
            OrderID,
            OrderDate,
            RequiredDate,
            ShippedDate
        FROM Orders
)
SELECT *
    FROM unpivot_source UNPIVOT (
        date_itself for date_type IN (OrderDate, RequiredDate, ShippedDate)
    ) AS unpivot_table

GO
```

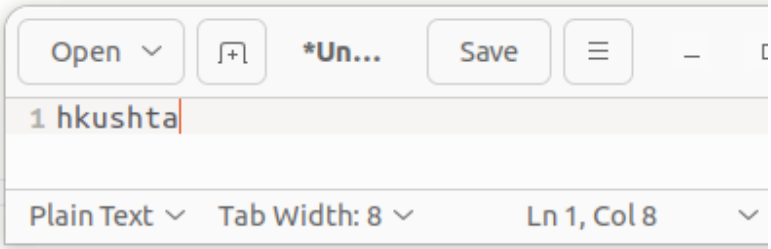


	OrderID	date_itself	date_type
1	10248	1996-07-04 00:00:00.000	OrderDate
2	10248	1996-08-01 00:00:00.000	RequiredDate
3	10248	1996-07-16 00:00:00.000	ShippedDate
4	10249	1996-07-05 00:00:00.000	OrderDate
5	10249	1996-08-16 00:00:00.000	RequiredDate
6	10249	1996-07-10 00:00:00.000	ShippedDate
7	10250	1996-07-08 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

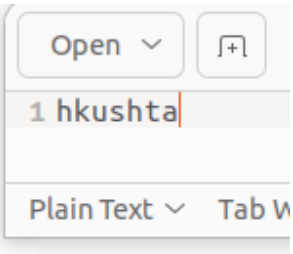


6. Unpivot the FudgeFlix titles which are just Movies so that is it easier to query titles which are available in different formats such as instant, DVD, and Blu-ray. Flatten these three columns into a single column with types, but only include a row when the value is 1 in the column.

```
USE fudgeflix_v3

GO

WITH unpivot_source AS (
    SELECT
            title_id,
            title_name,
            title_bluray_available,
            title_dvd_available,
            title_instant_available
        FROM ff_titles
        WHERE title_type = 'Movie'
)
SELECT *
    FROM unpivot_source UNPIVOT (
        title_types for titles IN (title_bluray_available, title_dvd_available, title_instant_available)
    ) AS unpivot_table
    WHERE title_types = 1

GO
```



	title_id	title_name	title_types	titles
1	13kag	Meet Joe Black	1	title_dvd_available
2	13kaI	Vampires	1	title_dvd_available
3	13kaw	Eyes Wide Shut	1	title_bluray_available
4	13kaw	Eyes Wide Shut	1	title_dvd_available
5	13kbB	U.S. Marshals	1	title_dvd_available
6	13kbB	U.S. Marshals	1	title_instant_available



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

```
USE payroll

GO

SELECT * FROM Employees FOR
    SYSTEM_TIME AS OF '2018-03-31'

GO
```

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	employee_id	employee_ssn	employee_firstname	employee_lastname	employee_hire_date	employee_termination_date
1	46	991-56-0931	June	Nipper	2017-05-01 00:00:00.000	NULL
2	54	777-43-2728	Alma	Frienzergon	2015-07-01 00:00:00.000	NULL
3	27	520-62-3750	Artie	Choke	2015-07-01 00:00:00.000	NULL
4	5	151-91-9536	Willie	Pas-D'course	2013-12-01 00:00:00.000	NULL
5	47	817-49-5922	Sue	Mii	2014-05-01 00:00:00.000	NULL

employee_jobtitle	employee_department	employee_pay_rate	employee_supervisor_employee_id	valid_from	valid_to
Sales Associate	Customer Service	17.094	5	2018-01-12 00:00:00.00000…	2018-11-12 00:00:00.00000…
Sales Associate	Customer Service	18.4778	5	2018-01-12 00:00:00.00000…	2
Sales Associate	Customer Service	18.594	5	2018-01-12 00:00:00.00000…	2
Department Manager	Customer Service	1020.0961	3	2018-01-12 00:00:00.00000…	2
Sales Associate	Hardware	18.8705	7	2018-01-12 00:00:00.00000…	2

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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).

```
USE payroll

GO

SELECT
      e.employee_id,
      e.employee_ssn,
      e.employee_firstname + ' ' + e.employee_lastname AS emp_fullname,
      e.employee_pay_rate,
      eh.employee_pay_rate AS employee_previous_pay_rate,
      e.employee_pay_rate - eh.employee_pay_rate AS pay_increase
  FROM employees e
  JOIN employees_history eh ON eh.employee_id = e.employee_id
  WHERE e.employee_firstname = 'Gus' and e.employee_lastname = 'Toffwind'
```

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	employee_id	employee_ssn	emp_fullname	employee_pay_rate	employee_previous_pay_rate	pay_increa
1	25	638-22-3313	Gus Toffwind	19.5895	17.25	2.3395
2	25	638-22-3313	Gus Toffwind	19.5895	17.8193	1.7702
3	25	638-22-3313	Gus Toffwind	19.5895	18.6212	0.9683

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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?

   I learned how temporal tables work and how to create them.

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

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

   Yes, I was

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.