

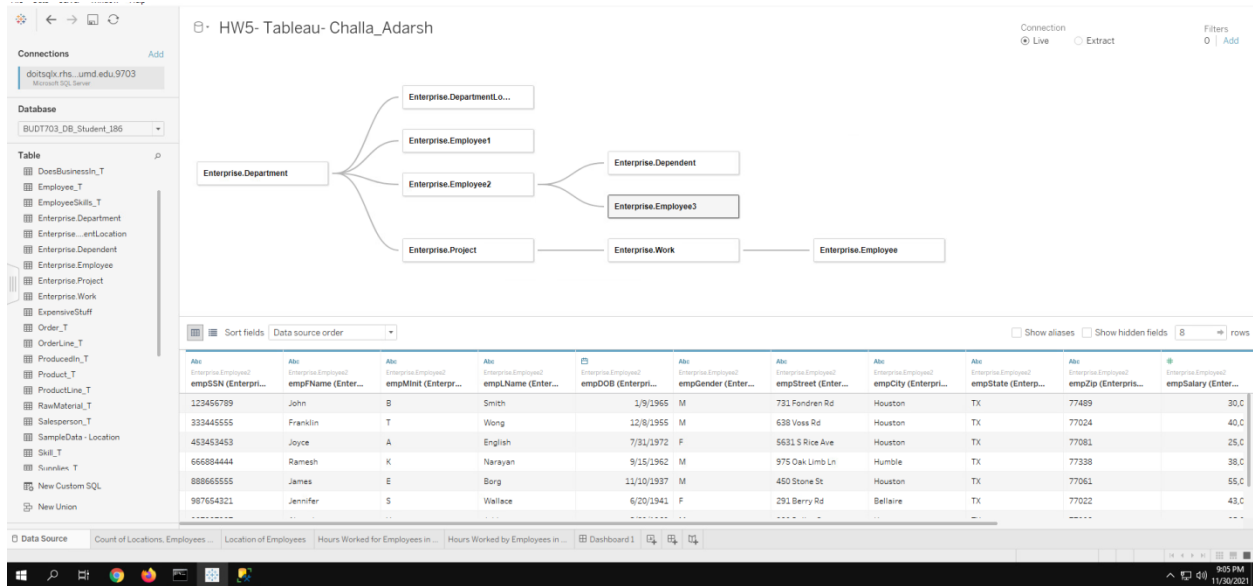
BUDT 703 Fall 2021 Homework #5 – Tableau

Due by 11:59pm, Tuesday, November 30th, 2021

Note: This file name must be renamed to **HW5_YourLastName_YourFirstName.docx**.
The Tableau workbook file must be named as **HW5_YourLastName_YourFirstName.twb**.

Data Source: Connect all six data tables with eight relationships using one relationship for each foreign key.

1. Insert an image showing your completed Data Source.



Sheet 1: How many locations, how many employees, and how many projects for each department name?

2. Answer your SELECT statement here.

USE BUDT703_DB_Student_186

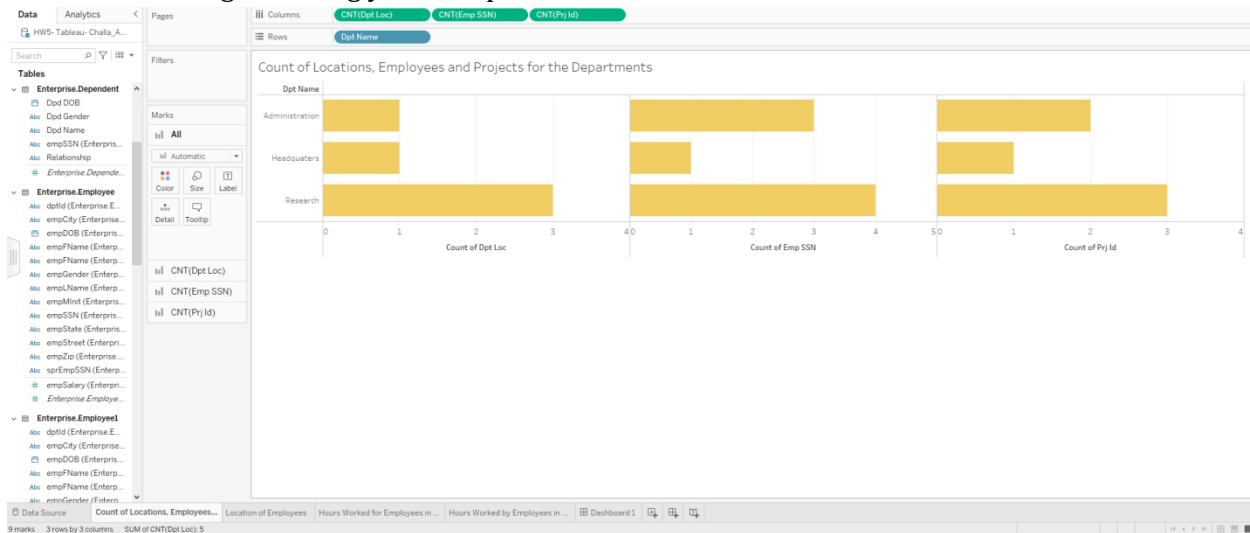
--1 How many locations, how many employees, and how many projects for each department name?

```
SELECT d.dptName, count(DISTINCT dl.dptLoc)AS 'number of locations', COUNT(DISTINCT
e.empSSN)AS 'number of employees', COUNT(DISTINCT p.prjId)AS 'number of projects'
FROM [Enterprise.Department] d, [Enterprise.DepartmentLocation] dl, [Enterprise.Employee] e,
[Enterprise.Project] p
WHERE d.dptId = dl.dptId AND d.dptId=e.dptId AND d.dptId=p.dptId
GROUP BY d.dptName
```

3. Insert an image showing the query result from the SQL Server Management Studio.

| | dptName | number of locations | number of employees | number of projects |
|---|----------------|---------------------|---------------------|--------------------|
| 1 | Administration | 1 | 3 | 2 |
| 2 | Headquarters | 1 | 1 | 1 |
| 3 | Research | 3 | 4 | 3 |

- Answer using coupled horizontal bars plot on Tableau.
Set the bar color to gold.
Rename sheet name and title.
Insert an image showing your completed Sheet 1.



Sheet 2: What are the full name and whole address for each employee in the order of zip codes?

- Answer your SELECT statement here.

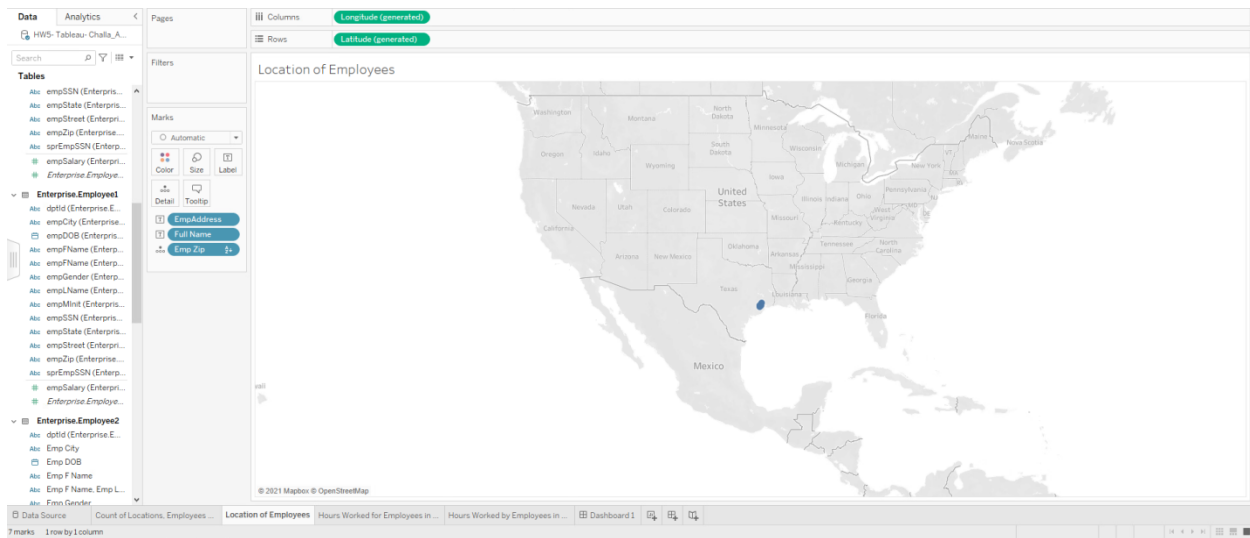
--2 What are the full name and whole address for each employee in the order of zip codes?

```
SELECT (e.empFName+' '+e.empMInit+' '+e.empLName) AS 'Full Name', (e.empStreet+' '+ e.empCity+' '+e.empState+' '+e.empZip) AS 'Full Address'
FROM [Enterprise.Employee] e
ORDER BY e.empZip
```

- Insert an image showing the query result from the SQL Server Management Studio.

| | Full Name | Full Address |
|---|--------------------|----------------------------------|
| 1 | Ahmed V Jabbar | 980 Dallas St Houston TX 77002 |
| 2 | Jennifer S Wallace | 291 Berry Rd Bellaire TX 77022 |
| 3 | Franklin T Wong | 638 Voess Rd Houston TX 77024 |
| 4 | James E Borg | 450 Stone St Houston TX 77061 |
| 5 | Joyce A English | 5631 S Rice Ave Houston TX 77081 |
| 6 | Alicia J Zelaya | 3321 Castle Dr Spring TX 77093 |
| 7 | Ramesh K Naray... | 975 Oak Limb Ln Humble TX 77338 |
| 8 | John B Smith | 731 Fondren Rd Houston TX 77489 |

- Answer using a US symbol map plot on Tableau.
Use zip code as a geographic role. (Hint: Columns = Longitude & Rows = Latitude)
Insert employee name and address into tooltip.
Rename sheet name and title.
Insert an image showing your completed Sheet 2.



Sheet 3: How many hours did each employee work on each project organized by each department in the order of employee full name, department name then project name?

8. Answer your SELECT statement here.

---3 How many hours did each employee work on each project organized by each department in the order of employee full name, department name then project name?

```
SELECT (e.empFName+e.empMlnit+e.empLName) AS 'Full_Name', d.dptName, p.prjName,
SUM(w.hours) AS 'hours worked'
FROM [Enterprise.Department] d, [Enterprise.Employee] e, [Enterprise.Project] p, [Enterprise.Work] w
WHERE w.empSSN = e.empSSN AND d.dptId=p.dptId AND w.prjId=p.prjId
GROUP BY e.empFName+e.empMlnit+e.empLName , d.dptName, p.prjName
ORDER BY (e.empFName+e.empMlnit+e.empLName), d.dptName, p.prjName
```

9. Insert an image showing the query result from the SQL Server Management Studio.

| | Full_Name | dptName | prjName | hours worked |
|---|---------------|----------------|-----------------|--------------|
| 1 | AhmadVJabbar | Administration | Computerization | 35.0 |
| 2 | AhmadVJabbar | Administration | Newbenefits | 5.0 |
| 3 | AlciaJZelaya | Administration | Computerization | 10.0 |
| 4 | AlciaJZelaya | Administration | Newbenefits | 30.0 |
| 5 | FranklinTWong | Administration | Computerization | 10.0 |
| 6 | FranklinTWong | Headquarters | Reorganization | 10.0 |
| 7 | FranklinTWong | Research | ProductY | 10.0 |
| 8 | FranklinTWong | Research | ProductZ | 10.0 |

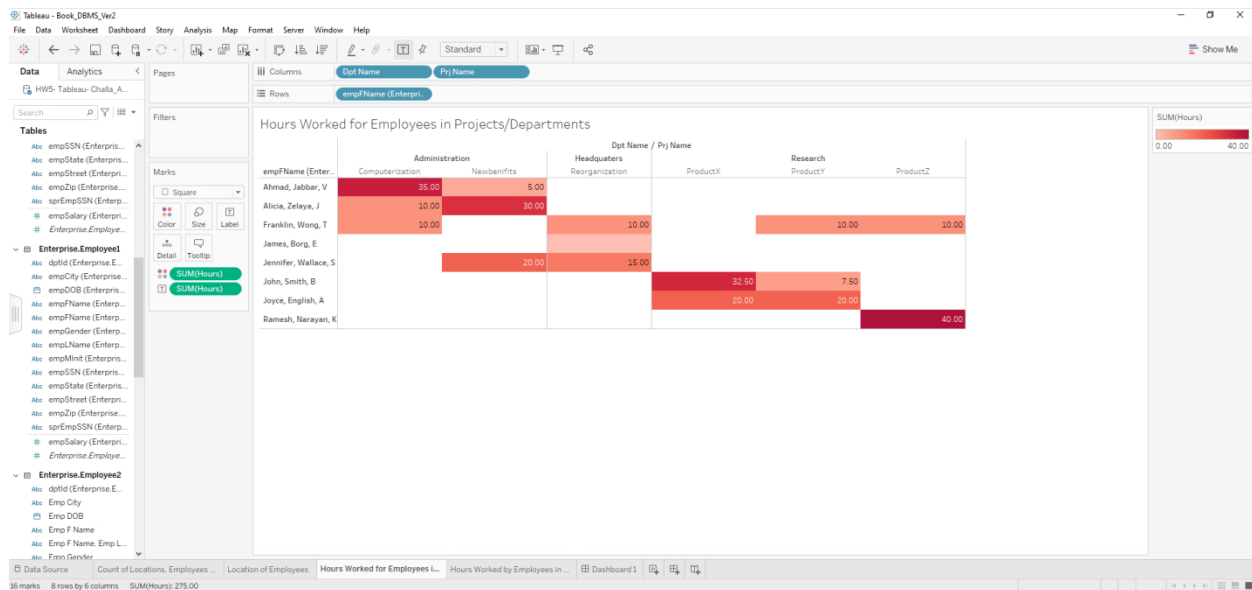
10. Answer using a highlight table on Tableau.

Filter out no hours, if any.

Set the palette color to red, and set the min in legend to 0.00.

Rename sheet name and title.

Insert an image showing your completed Sheet 3.



Sheet 4: For each employee, what are the total hours worked on all projects and the hour worked on each project?

11. Answer your SELECT statement here.

--4 For each employee, what are the total hours worked on all projects and the hour worked on each project?

```
SELECT w.empSSN,
CASE
    WHEN w.prjId IS NULL THEN 'Total Project Hours'
    ELSE w.prjId
END AS 'Project Id', SUM(w.hours) AS 'Total hours worked'

FROM [Enterprise.Work] w
GROUP BY CUBE (w.empSSN, w.prjId)
HAVING w.empSSN IS NOT NULL
ORDER BY w.empSSN, 'Project Id' ASC
```

12. Insert an image showing the query result from the SQL Server Management Studio.

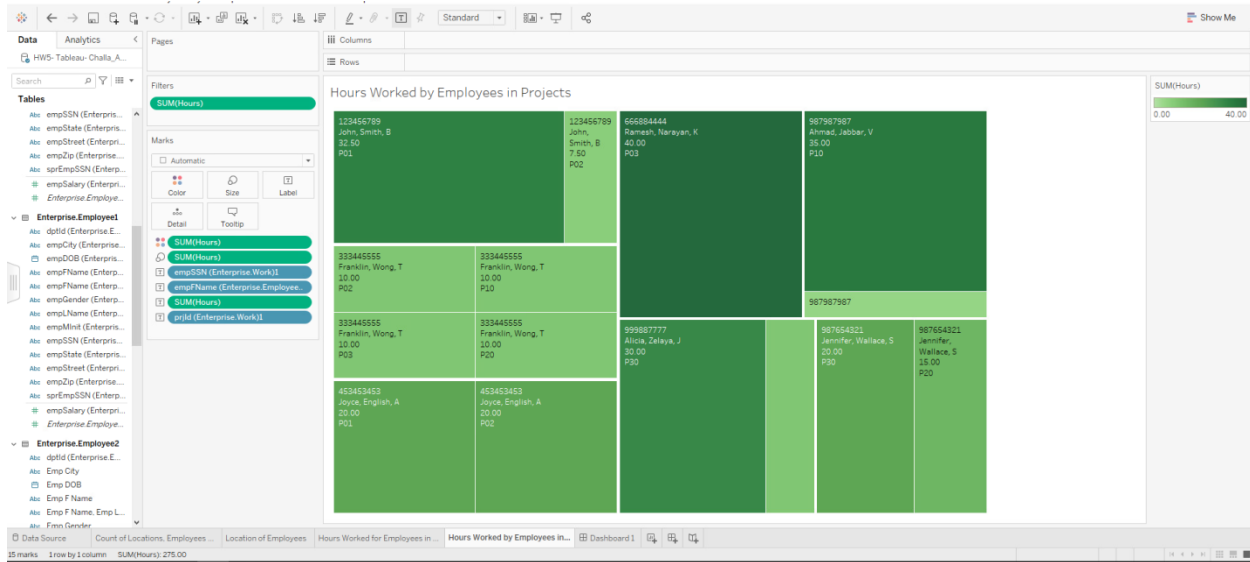
| empSSN | Project Id | Total hours worked |
|-----------|---------------------|--------------------|
| 123456789 | P01 | 32.5 |
| 123456789 | P02 | 7.5 |
| 123456789 | Total Project Hours | 40.0 |
| 333445555 | P02 | 10.0 |
| 333445555 | P03 | 10.0 |
| 333445555 | P10 | 10.0 |
| 333445555 | P20 | 10.0 |
| 333445555 | Total Project Hours | 40.0 |

13. Answer using a treemap plot on Tableau.

Set the palette color to green, and set the min in legend to 0.00.

Rename sheet name and title.

Insert an image showing your completed Sheet 4.



Dashboards:

14. Create a dashboard of single vertical layout panels.

Insert Sheet 1 onto the top, and add two horizontal layout panels below.

Insert Sheet 2 onto the left of the middle panel.

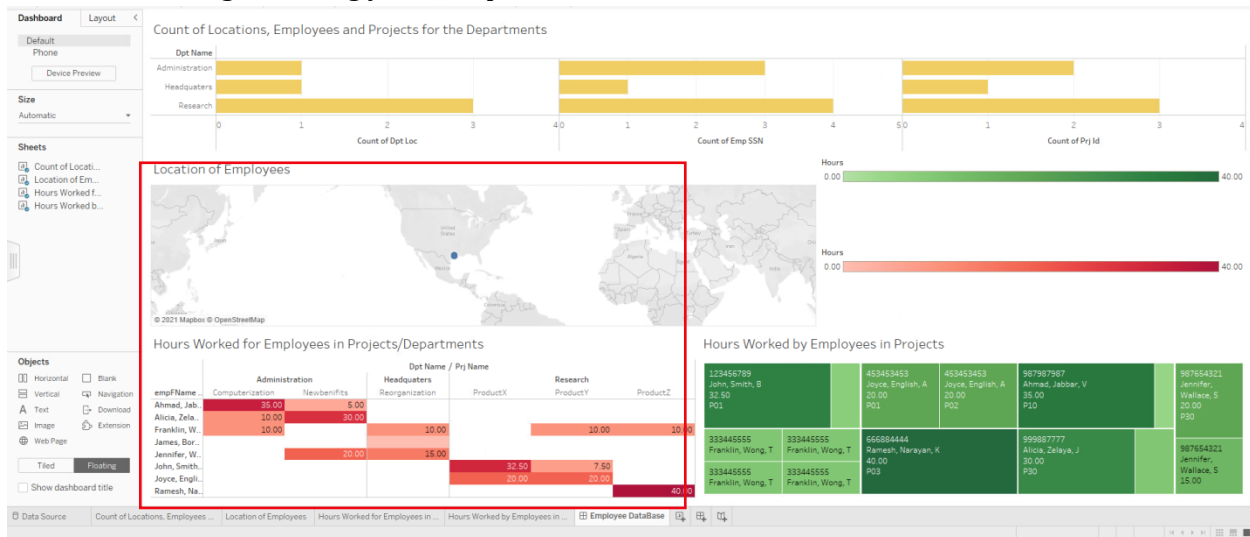
Insert Sheets 3 and 4 onto the left and the right of the bottom panel.

Move two legends onto the right of the middle panel.

Adjust dashboard and panel sizes to avoid any vertical or horizontal scrollbar inside any panel.

Rename dashboard name.

Insert an image showing your completed Dashboard 1.



Data Source: Remove the relationships that were not used.

15. Insert an image showing your completed Data Source.

