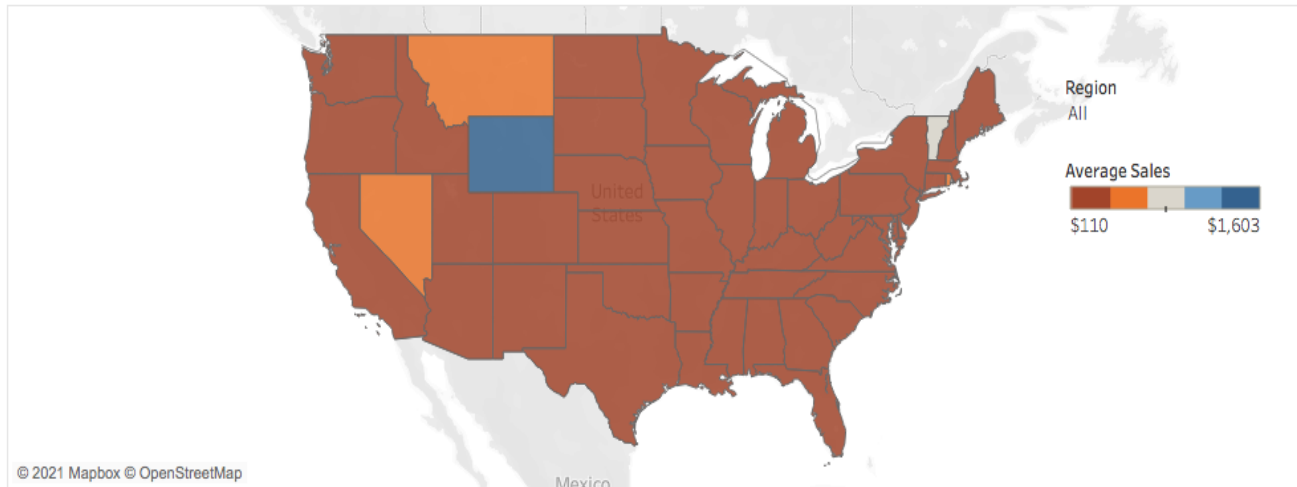# DATA-321
Exam II

Exam Instructions

1. **Show all your work** and write complete and coherent answers.

2. Show all of the steps that you used to get your final answer. If you do not show your work I can not give partial credit in the case of incorrect answers.

3. **Please strive for clarity and organization.**

4. **Make sure you describe all your charts in the chart caption and answer the question.**

5. **You are not allowed to discuss any of the exercises in exam 2 with others.**

6. **Late submission will not be accepted, regardless of the circumstances.**

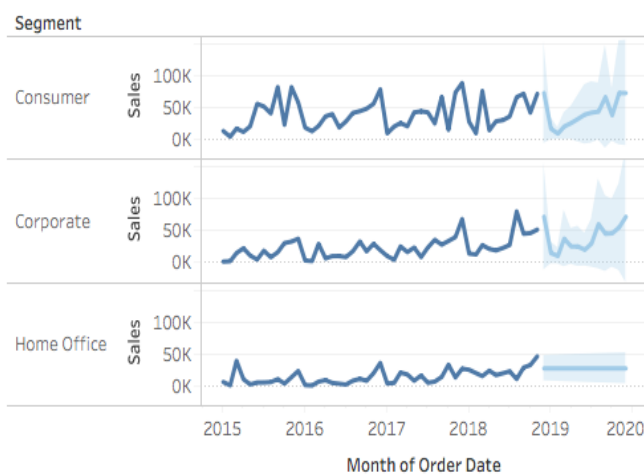Take the time to carefully read all the questions on the exam. GOOD LUCK!

1. Using the orders data files do the following:

   (a) (3 points) Load the order_south_2015.csv to tableau prep.

   (b) (4 points) Using the Wildcard union option in tableau prep, take the union of order_south_2015.csv, order_south_2016.csv, order_south_2017.csv, and order_south_2018.csv

   (c) (3 points) Load the Orders_Central.csv to tableau prep.

   (d) (10 points) In Orders_Central.csv, you will notice the issue of the separated fields for Order Date and Ship Date. First, change the name of the fields Product and Discounts, call them Product Name and Discount, respectively. After that, using the MAKEDATE function, create two new fields: Order Date and Ship Date. Then, remove Order Year, Order Month, Order Day, Ship Year, Ship Month, Ship Day. After that, create a new field, call it Region and enter "Central" in the formula box. Finally, in the Discounts, change None to 0 and then change Discounts from a string to a number (decimal).

   (e) (3 points) Load the Orders_West.csv to tableau prep.

   (f) (5 points) In Orders_West.csv, remove all the fields that start with Right_. Then

   (g) (3 points) Load the Orders_East.xlsx to tableau prep.

   (h) (4 points) In Orders_East.xlsx, you will notice that Sales field has USD on each sale value. First, remove USD from the sales value, and then change Sales to number (decimal).

   (i) (6 points) Take the union of all the orders and export it to as .csv file, call it Orders_All_US_Regions.csv. Make sure to remove the Table Names and File Paths columns before you export the data to the .csv file.

   (j) (3 points) Load the Orders_All_US_Regions.csv to tableau desktop.

   (k) (30 points) Duplicate the dashboard shown below. Make sure the filters apply to the all the charts presented in the dashboard.
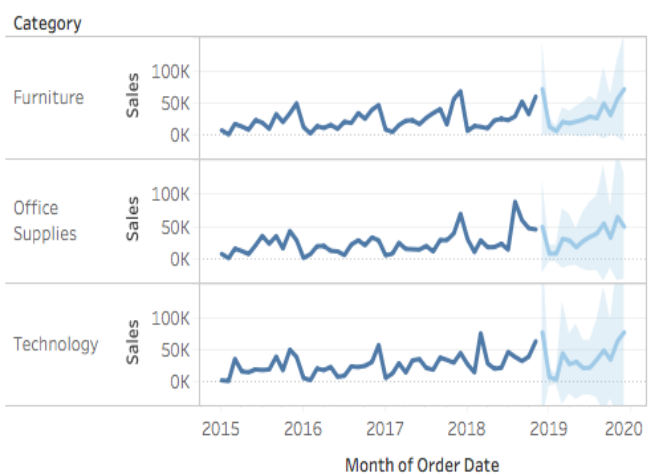
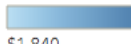## Sales Overview

Average Sales by State & Region

Region
All

Average Sales
$110 $1,603

© 2021 Mapbox © OpenStreetMap

Forecast Sales by Segment

Segment

Consumer

Corporate

Home Office

Month of Order Date

Forecast Sales by Product Category

Category

Furniture

Office Supplies

Technology

Month of Order Date

(l) (30 points) Duplicate the dashboard shown below. Make sure the filters apply to the all the charts presented in the dashboard.

Product Drilldown

Sales by Product Category

Category	Year of Ord..	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Furniture	2015	$8,140	$1,840	$17,963	$13,997	$9,123	$23,897	$20,028	$10,544	$33,277	$20,788	$34,311	$49,862
	2016	$13,052	$3,170	$14,606	$11,695	$16,547	$10,415	$21,242	$19,514	$34,791	$25,900	$39,869	$47,238
	2017	$9,353	$5,599	$16,114	$23,009	$23,582	$17,643	$27,406	$34,751	$40,968	$17,212	$56,611	$68,577
	2018	$7,096	$14,736	$13,603	$11,163	$23,560	$25,949	$23,834	$29,564	$52,573	$33,019	$60,193	$69,867
Office Supplies	2015	$8,348	$1,983	$16,435	$12,835	$8,078	$21,402	$35,907	$23,872	$35,666	$16,730	$43,435	$29,397
	2016	$2,167	$8,064	$20,219	$20,579	$13,171	$12,248	$6,628	$22,690	$29,195	$21,666	$33,516	$29,148
	2017	$6,179	$8,916	$25,321	$15,979	$15,580	$14,980	$20,533	$12,184	$29,466	$29,369	$39,553	$69,605
	2018	$31,094	$11,253	$29,183	$18,617	$18,859	$23,855	$14,924	$87,942	$59,845	$47,589	$45,816	$43,116
Technology	2015	$3,143	$2,088	$36,201	$16,724	$15,581	$19,875	$19,000	$19,823	$39,738	$18,584	$50,503	$39,275
	2016	$6,545	$3,449	$21,322	$18,712	$23,910	$8,535	$10,075	$24,609	$23,632	$25,437	$31,269	$57,698
	2017	$6,618	$13,864	$29,569	$15,190	$34,068	$35,763	$22,221	$19,513	$38,235	$34,643	$30,408	$45,437
	2018	$27,977	$15,313	$75,729	$28,969	$21,138	$22,462	$46,932	$39,313	$32,936	$39,574	$63,303	$44,624

Order Date

Region: ✔ Central ✔ East ✔ South ✔ West

Sales $1,840

Profit Ratio -50%

Sales and Profit by Product Names
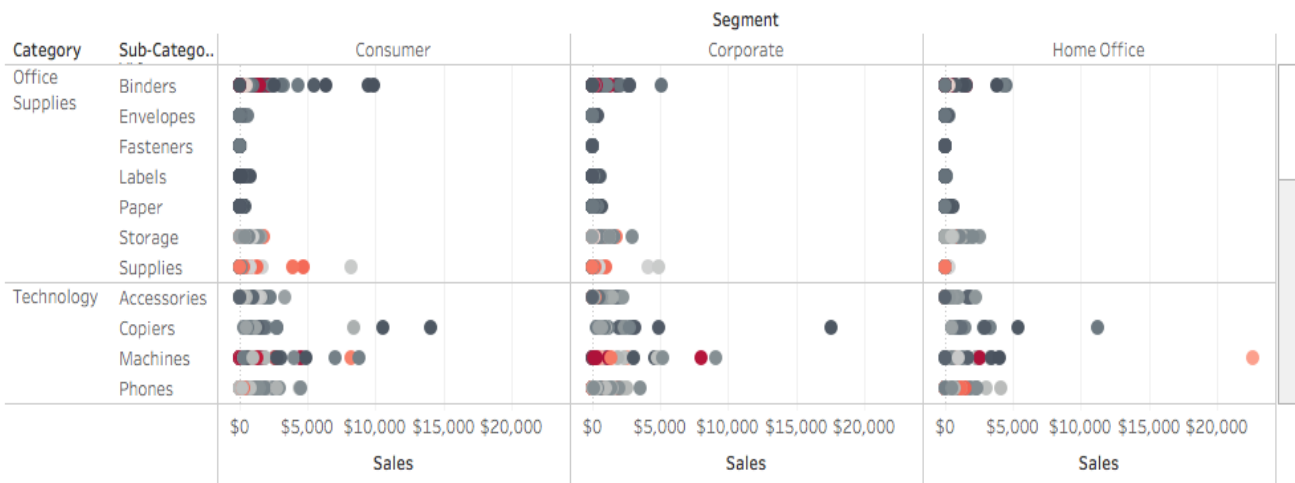
2. (66 points) Consider the HRDataset.csv. The HRDataset was designed by Drs. Rich Hueb-ner and Carla Patalano to accompany a case study designed for graduate HR students study-ing HR metrics, measurement, and analytics. A brief description of each of the variables in the dataset is shown below.

- **Employee Name:** Employee's full name.
- **EmpID:** Employee ID is unique to each employee.
- **MarriedID:** Is the person married (1 or 0 for yes or no).
- **MaritalStatusID:** Marital status code that matches the text field MaritalDesc.
- **EmpStatusID:** Employment status code that matches text field EmploymentStatus.
- **DeptID:** Department ID code that matches the department the employee works in.
- **PerfScoreID:** Performance Score code that matches the employee's most recent per-formance score.

- `FromDiversityJobFairID`: Was the employee sourced from the Diversity job fair? 1 or 0 for yes or no.
- `Salary`: The person's yearly salary in $ U.S. Dollars.
- `Termd`: Has this employee been terminated - 1 or 0.
- `PositionID`: An integer indicating the person's position.
- `Position`: The text name/title of the position the person has.
- `State`: The state that the person lives in.
- `Zip`: The zip code for the employee.
- `DOB`: Date of Birth for the employee.
- `Sex`: Sex - M or F.
- `MaritalDesc`: The marital status of the person (divorced, single, widowed, separated, etc).
- `CitizenDesc`: Label for whether the person is a Citizen or Eligible NonCitizen.
- `HispanicLatino`: Yes or No field for whether the employee is Hispanic/Latino.
- `RaceDesc`: Description/text of the race the person identifies with.
- `DateofHire`: Date the person was hired.
- `DateofTermination`: Date the person was terminated, only populated if, in fact, Termd = 1.
- `TermReason`: A text reason/description for why the person was terminated.
- `EmploymentStatus`: A description/category of the person's employment status. Anyone currently working full time = Active
- `Department`: Name of the department that the person works in.
- `ManagerName`: The name of the person's immediate manager.
- `ManagerID`: A unique identifier for each manager.
- `RecruitmentSource`: The name of the recruitment source where the employee was recruited from.
- `PerformanceScore`: Performance Score text/category (Fully Meets, Partially Meets, PIP, Exceeds).
- `EngagementSurvey`: Results from the last engagement survey, managed by our external partner.
- `EmpSatisfaction`: A basic satisfaction score between 1 and 5, as reported on a recent employee satisfaction survey.
- `SpecialProjectsCount`: The number of special projects that the employee worked on during the last 6 months.
- `LastPerformanceReviewDate`: The most recent date of the person's last performance review.
- `DaysLateLast30`: The number of times that the employee was late to work during the last 30 days.

- **Absences:** The number of times the employee was absent from work.

Using the `HRDataset`, create a dashboard or dashboards that you can use to tell a story about this dataset. You may consider the following questions:

- Is there any relationship between who a person works for and their performance score?
- What is the overall diversity profile of the organization?
- What are our best recruiting sources if we want to ensure a diverse organization?
- Are there areas of the company where pay is not equitable?

Don't limit your analysis to only the above questions. Create visualizations (at least 4 charts) that can help to tell a story. If you create five or more charts, please split those into two dashboards. Submit the tableau file. Feel free to use tableau prep to prepare the data if you need to. If you use tableau prep, submit the tableau prep file as well.

[1]

---

[1]Make sure you submit your `*.tfl` and `*.twb` files in Blackboard.