Task # 2 -To Explore Supervised Machine Learning

- In this regression task we will predict the percentage of marks that a student is expected to score based upon the number of hours they studied. This is a simple linear regression task as it involves just two variables.

- Data: http://bit.ly/w-data

- What will be predicted score if a student studies for 9.25 hours in a day?
  According to my model: 92.90985477

- Sample Solution:
  https://drive.google.com/file/d/1koGHPElsHuXo9HPL4BQkZWRMJkOEHiv4/view

- My Solution:
  https://github.com/iamdhruvsharma/GRIP---DS-ML---Submission/blob/master/Task2_GRIP_Dhruv.ipynb

- Video Link: https://youtu.be/MEMTOX4y6i0

Task # 3 - To Explore Unsupervised Machine Learning

- From the given 'Iris' dataset, predict the optimum number of clusters and represent it visually.

- Dataset:
  https://drive.google.com/file/d/11Iq7YvbWZbt8VXjfm06brx66b10YiwK-/view

- Sample Solution:
  https://drive.google.com/file/d/1Yjz8dzSbpAPwJdcVb20eFWniIDbs6ZH7/view

- Video Link: https://youtu.be/OAh97NRkIG0

Task # 4 - To Explore Decision Tree Algorithm

- For the given 'Iris' dataset, create the Decision Tree classifier and visualize it graphically. The purpose is if we feed any new data to this classifier, it would be able to predict the right class accordingly.

- Dataset:
  https://drive.google.com/file/d/11Iq7YvbWZbt8VXjfm06brx66b10YiwK-/view

- Sample Solution:
  https://drive.google.com/file/d/1mQguC2gku2-QFruj09a30N0TYDwCmPkq/view

- Video Link: https://youtu.be/9Q0Hkk1_D1E

Task # 5 - To explore Business Analytics

- For the Perform 'Exploratory Data Analysis' on the provided dataset "**SampleSuperstore**"

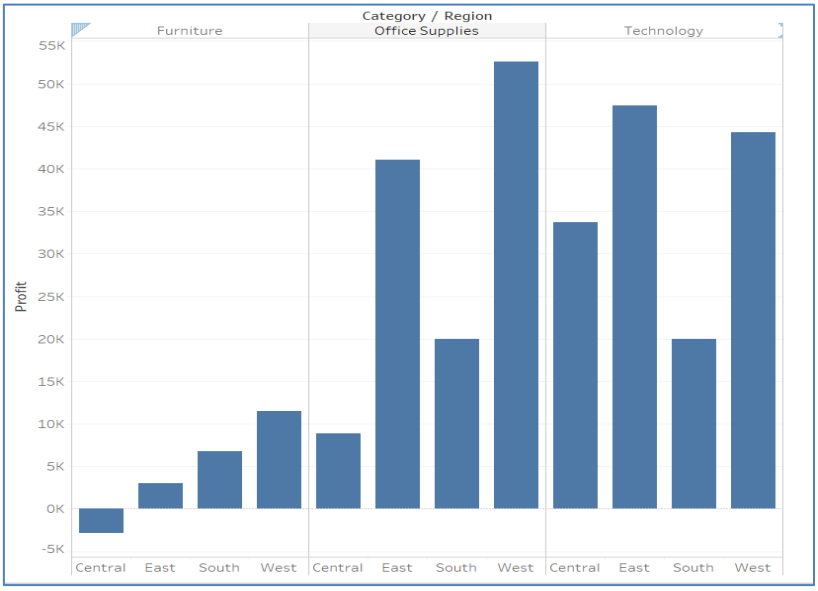
- You are the business owner of the retail firm and want to see how your company is performing. You are interested in **finding out the weak areas** where you can work to make more profit. What all business problems you can derive by looking into the data? You can choose any of the tool of your choice (Python/R/Tableau/PowerBI/Excel)

- Dataset: https://drive.google.com/file/d/1lV7is1B566UQPYzzY8R2ZmOritTW299S/view

- Critical points from the analysis:

    1. **Furniture** Category performed worst among the three categories in terms of profit. Hence, we need improvement in that area.

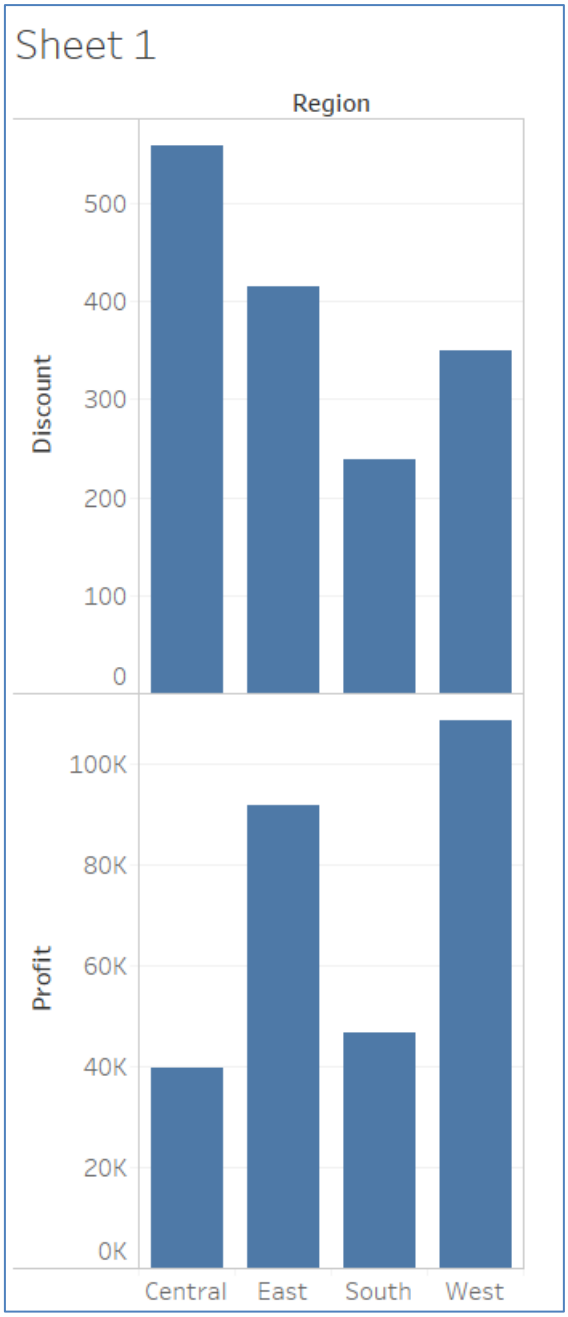
    2. Even worse: In **central** region, furniture category has shown **negative** profit.



    3. Talking with respect to states following are the concerning points:

        - Illinois & Texas – Among the Top States having MAX Negative Profit (in **furniture**)
        - Illinois & Texas – Among the Top States having MAX Negative Profit (in **Office Supplies**)
        - North Carolina & Ohio - Among the Top States having MAX Negative Profit (in **Technology**)

4. Maximum discount was given in the central region maybe a possible reason for the low profit.



5. Texas is the state that has received the MAXIMUM discount on the products and has shown highest negative profit in majority of the categories. So, this clearly indicates that we need to work productively towards improving our business around Texas.

- Video Link: https://youtu.be/-jTCLP-Zf60