IBM Nalaiya Thiran
Assignment - 1
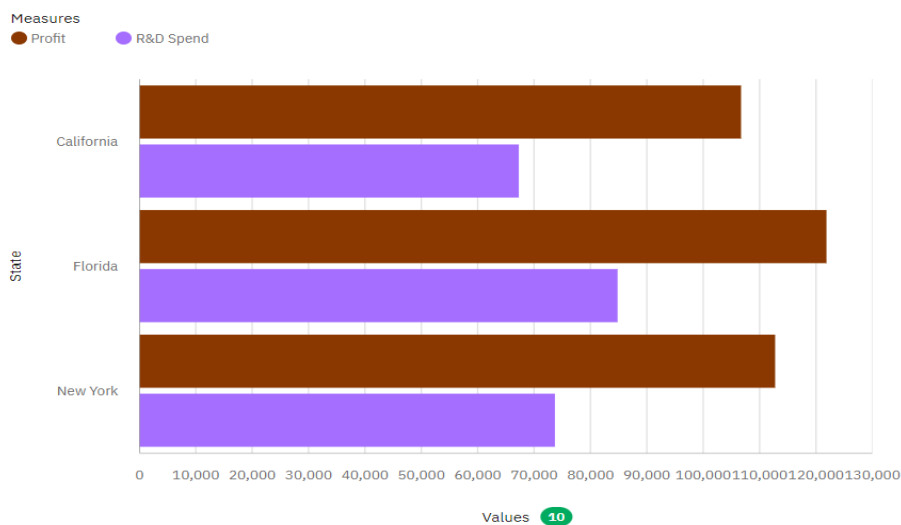## _The Case of 50 Startups_

Name	Pravin Kumar S
Roll No	737819CSR144
College	Kongu Engineering College

1.Profit and R&D Spend by State

Inference:

- This bar chart represents the Average Profit and R&D spend by state.
- The most common values of State are New York (36.1 %) and California (33.3 %), together occurring 75 times, which is 69.4 % of the total.
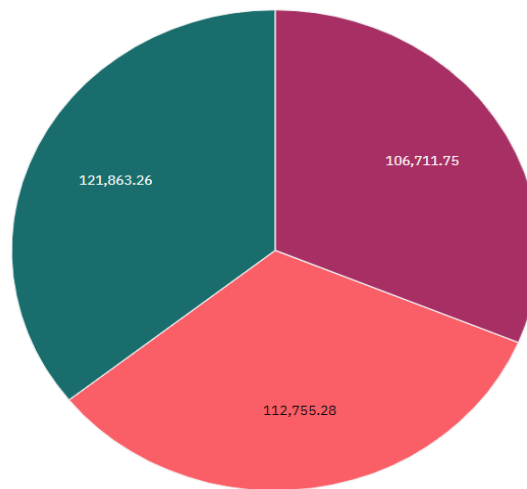- Florida has the highest profit and R & D spend.

2.Profit by State

Inference:

- This pie chart represents Average profit by state.
- Florida has more Average profit than other two states.
- While comparing these three states New York has the least profit.
- Over all states, the average of Profit is nearly 114 thousand.

Profit by State 5
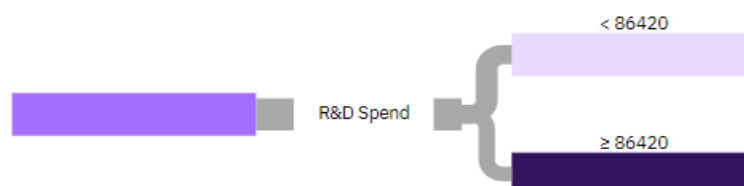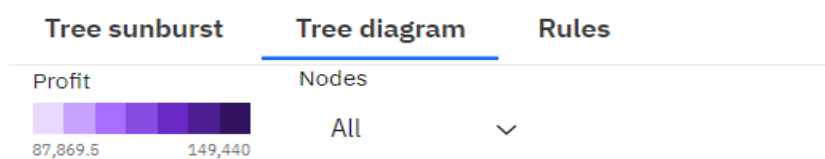
State
● California ● New York ● Florida

3. Decision Tree on Profit

Inference:

- Decision tree representation on profit.
- R&D Spend predicts Profit with a strength of 61.2%.
- If R&D Spend is less than 86420, the predicted value is 87869.50.
- If R&D Spend is greater than or equal to 86420, the predicted value is 149440.00.

Profit

Tree sunburst	Tree diagram	Rules

Profit

87,869.5   149,440

Nodes

All

R&D Spend

< 86420

≥ 86420

4.Profit, R&D Spend, Administration and Marketing Spend for State

Inference:

- This Cross table represents the profit, R & D Spend, administration and marketing spend for the state.
- The largest value of Profit is over 192 thousand, occurring in New York.
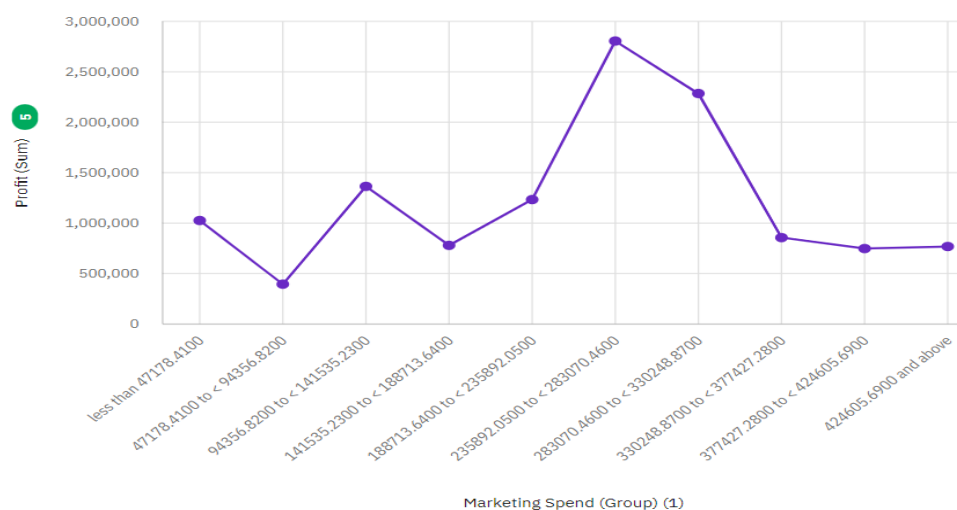- The smallest value of Administration is over 51 thousand, occurring in California.

	Profit	R&D Spend	Administration	Marketing Spend
California	191,792.06	162,597.7	51,283.14	443,898.53
Florida	191,050.39	153,441.51	84,710.77	407,934.54
New York	192,261.83	165,349.2	51,743.15	471,784.1
Summary	**192,261.83**	**165,349.2**	**51,283.14**	**471,784.1**

5.Profit by Marketing Spend (Group)

Inference:

- This Line graph represents profit by marketing spend.
- Profit is unusually high when Marketing Spend (Group) is 235892.0500 to < 283070.4600 and 283070.4600 to < 330248.8700.
- Across all values of Marketing Spend (Group), the sum of Profit is over 12 million.

6.Profit and Profit for R&D Spend (Group) colored by Profit

Inference:

- This Line and column graph represents Profit and Profit for R&D Spend (Group) colored by Profit.
- Across all values of R&D Spend (Group), the sum of Profit is over 12 million.
- For Profit, the most significant values of R&D Spend (Group) are 66139.6800 to < 82674.6000, 82674.6000 to < 99209.5200, and 115744.4400 to < 132279.3600, whose respective Profit values add up to almost 5.4 million, or 43.8 % of the total.

Profit and Profit for R&D Spend (Group) colored by Profit