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Experiment	**6**

AIM:

Design Interactive Dashboards and Storytelling using using Power BI or Tableau on the dataset - Animal / Wildlife / Marine

- Basic - Bar chart, Pie chart, Histogram, Timeline chart, Scatter plot, Bubble plot
- Advanced - Word chart, Box and whisker plot, Violin plot, Regression plot (linear and nonlinear), 3D chart, Jitter
- Use of DAX queries in Power BI (https://learn.microsoft.com/en-us/power-bi/transform-model/desktop-quickstart-learn-dax-basics)
- Write observations from each chart

DESCRIPTION:

This dataset provides information on pet ownership across different locations, breaking down the number of households, pet ownership rates, and the populations of dogs and cats.:

Location: The geographical area being analyzed.

Number of Households (in 1000): The total number of households in the location, represented in thousands.

Percentage of Households with Pets: The percentage of total households that own at least one pet.

Number of Pet Households (in 1000): The estimated number of households that own pets, represented in thousands.

Percentage of Dog Owners: The percentage of pet-owning households that own dogs.

Dog Owning Households (in 1000s): The number of households that own dogs, represented in thousands.

Mean Number of Dogs per Household: The average number of dogs owned per dog-owning household.

Dog Population (in 1000): The total population of dogs in the location, represented in thousands.

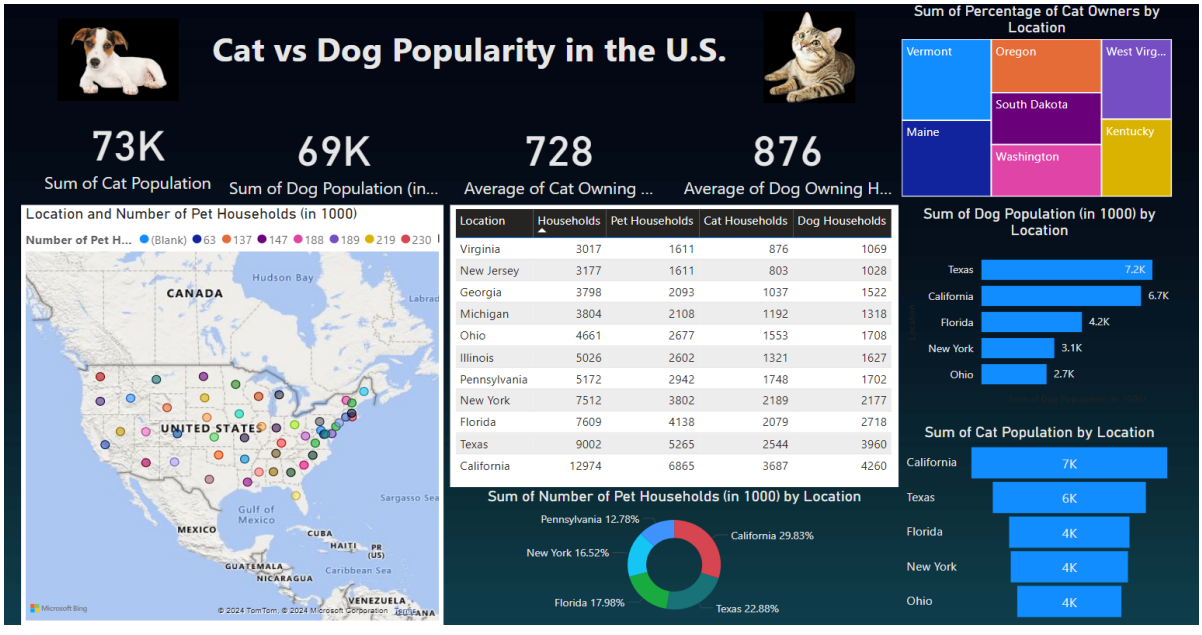
Percentage of Cat Owners: The percentage of pet-owning households that own cats.

Cat Owning Households: The number of households that own cats.

Mean Number of Cats: The average number of cats owned per cat-owning household.

Cat Population: The total population of cats in the location.

REPORT:



This dashboard provides a comprehensive view of cat and dog ownership trends across different states in the United States. It utilizes various charts to visualize data related to pet households, cat and dog populations, and the percentage of cat owners.

1. Cat vs Dog Popularity:

Overall Popularity: While specific states show variations, dogs seem to be slightly more popular than cats in the U.S. based on the sum of dog and cat populations.

2. Average Cat and Dog Ownership:

Vermont and Oregon: These states have the highest average number of cat owners per household, suggesting a strong preference for cats in these regions.

3. Sum of Cat and Dog Populations:
   California and Texas: These states have the highest sum of cat and dog populations, indicating a large pet-owning population.
   New York: While it has a high overall pet population, the sum of cat and dog populations is lower compared to California and Texas.

4. Location and Number of Pet Households:
   New York: Has the highest number of pet households, followed by California and Texas.
   Virginia: Has the lowest number of pet households among the states listed.

DAX Queries:

1. Sum of Cat Population = SUM(Pet Data[Cat Population])
2. Sum of Dog Population = SUM(Pet Data[Dog Population])
3. Average of Cat Owning Households = AVERAGE(Pet Data[Cat Households])
4. Average of Dog Owning Households = AVERAGE(Pet Data[Dog Households])
5. Percentage of Cat Owners = DIVIDE(SUM(Pet Data[Cat Households]), SUM(Pet Data[Pet Households]))

Filters:

- **Cities:** To analyze data for specific cities or regions.
- **Pet Type:** To focus on either cats or dogs.

CONCLUSION: From this experiment I learnt how to create an interactive dashboard. I have also gained the knowledge of doing an EDA over the data on Power Bi using DAX queries.