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Exp No.	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, Time line 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

● Write observations from each chart

Description:

Dataset used is Animal Information Dataset available at

https://www.kaggle.com/datasets/iamsouravbanerjee/animal-information-dataset

Animal: The common name of the animal species.

Height (cm): The height range of the animal in centimeters, indicating the size of the species.

Weight (kg): The weight range of the animal in kilograms, which reflects its mass and overall body structure.

Color: The predominant color(s) of the animal, which may be relevant for camouflage, mating, or identification purposes.

Lifespan (years): The average lifespan of the animal, providing insight into its longevity in the wild or under human care.

Diet: The dietary classification of the animal, such as carnivore, herbivore, or insectivore, indicating its primary food sources.

Habitat: The natural environments where the animal is typically found, such as savannahs, forests, or mountains.

Predators: The main predators that threaten the animal, highlighting its position within the food chain.

Average Speed (km/h): The average running speed of the animal in kilometers per hour, showcasing its mobility.

Countries Found: Geographic regions or countries where the animal species can be found, indicating its distribution.

Conservation Status: The classification of the animal's risk of extinction, ranging from "Least Concern" to "Endangered" or "Vulnerable," based on IUCN criteria.

Family: The taxonomic family to which the animal belongs, providing a biological classification.

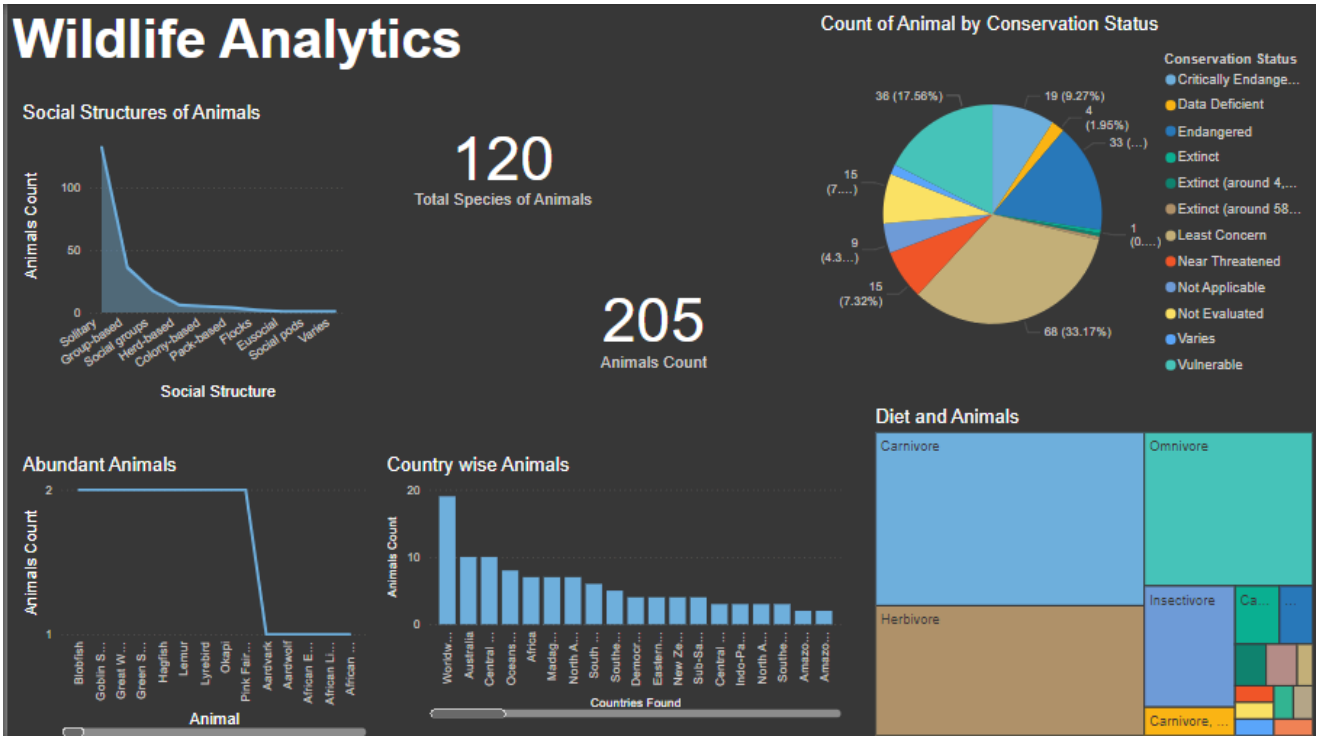
Gestation Period (days): The duration of pregnancy for the species, which can vary widely among different animals.

Top Speed (km/h): The maximum speed the animal can reach, often relevant for survival and hunting.

Social Structure: The typical social behavior of the animal, indicating whether it is solitary, herd-based, or group-based.

Offspring per Birth: The average number of young produced in a single birth, which can be important for understanding reproductive strategies.

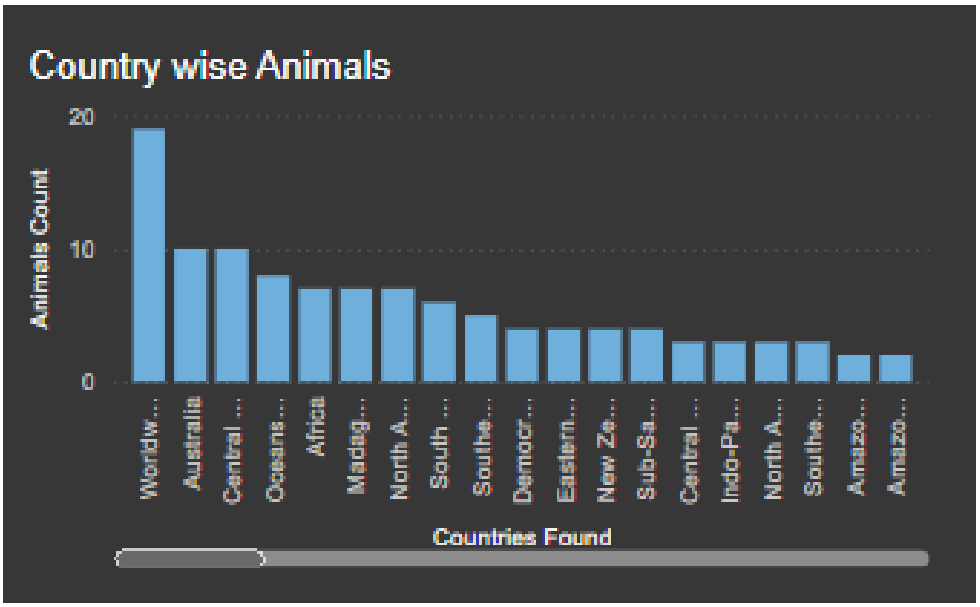
Dashboard:



Queries and Observations:

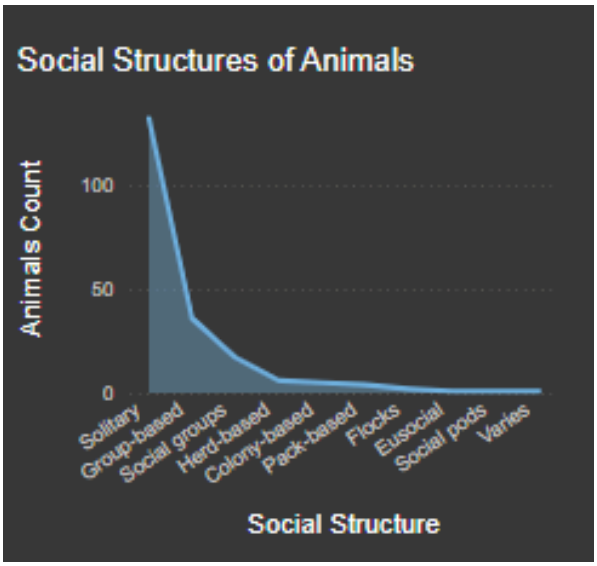
How are animals distributed across different countries/regions?

The distribution of animals varies significantly across countries. Animals are unevenly distributed, with countries like the U.S. and Australia having the highest number of species and animals, while other countries have fewer.



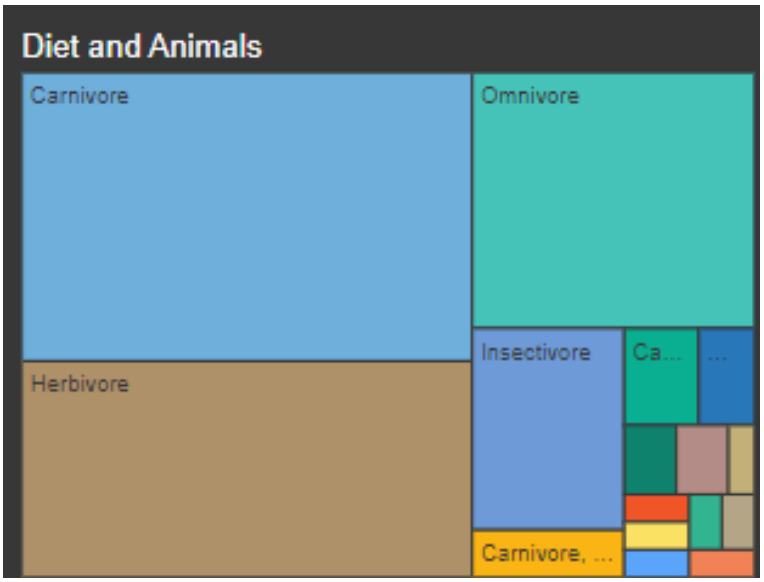
What are the different social structures of animals?Which social structure has the highest number of animals?

Animals are categorized into different social structures like solitary, group-based, herds, packs, families, and social pairs. The highest number of animals are solitary, indicating that most species in the dataset prefer to live and survive alone.



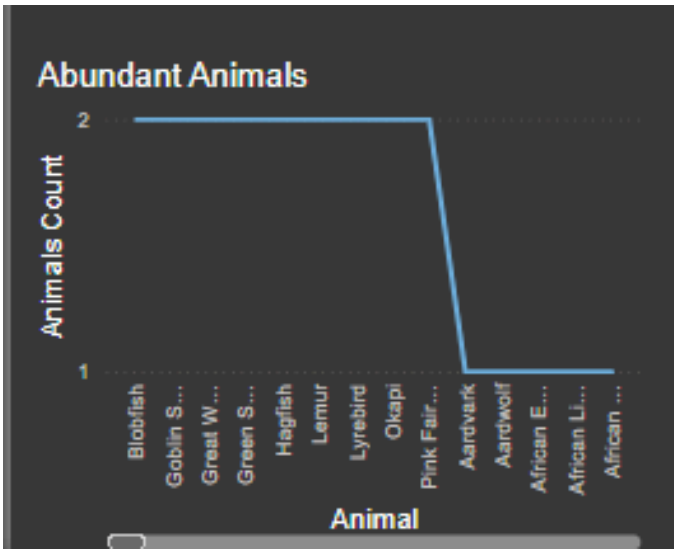
What patterns are seen in the diet of animals?

The diet patterns show that animals are categorized mainly into herbivores, omnivores, carnivores, and insectivores. Most animals are carnivores, followed by omnivores and then herbivores. Insectivores are less common.



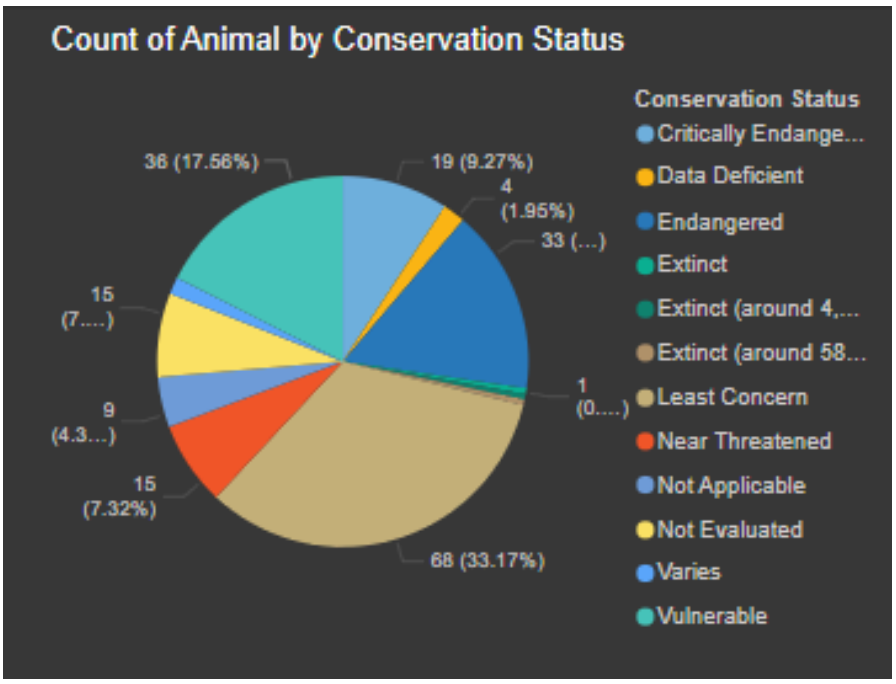
Which animals are the most abundant?

Species like Biodish and Guan are the most abundant, with other animals having smaller populations.



What is the overall trend in animal conservation statuses?

The majority of animals fall under the Least Concern category, indicating that a large portion of the animal population is not currently threatened. However, significant numbers of animals are classified as Endangered and Critically Endangered, highlighting ongoing conservation challenges.



Conclusion:

Through this experiment, we got to know about DAX queries, how to write them in power BI and how a dashboard can be created using the DAX Queries.