**Dataset Description and Purpose**

This dataset contains biological and ecological information for 62 animals, focusing primarily on **sleep patterns**, **body characteristics**, and **environmental risk factors**. It's especially useful in **behavioural science**, **zoology**, and **biostatistics** for exploring how physical and ecological traits influence sleep.

**Dataset Variables:**

1. **body\_weight** *(float)* – The animal's body weight in kilograms.
2. **brain\_weight** *(float)* – The weight of the animal's brain in grams.
3. **max\_life\_span** *(object/float)* – The maximum life span in years. Some missing or unknown values are marked with ?.
4. **gestation\_time** *(object/int)* – The gestation period in days. Some data points are missing or represented as ?.
5. **predation\_index** *(int)* – A categorical score (1–5) indicating how likely an animal is to be preyed upon.
6. **sleep\_exposure\_index** *(int)* – A categorical score (1–5) showing how exposed the animal is while sleeping.
7. **danger\_index** *(int)* – Overall danger/risk level for the species (1–5 scale).
8. **total\_sleep** *(object/float)* – The total sleep time in hours per day. Some values are missing or marked ?.

**Purpose and Analytical Value**

The dataset is intended for:

* Understanding **evolutionary trade-offs** between safety and sleep.
* Exploring **correlations** between physical features (like body/brain weight) and sleep duration.
* Investigating how environmental **risk factors** impact sleep behavior.
* Building **predictive models** for total sleep time based on measurable features.

**Potential Relationships**

1. **Brain vs. Body Weight:**
   * Explore **encephalization**: Is a higher brain-to-body ratio linked with more sleep or intelligence?
2. **Sleep vs. Danger Index:**
   * Do animals in **more dangerous environments** sleep less?
3. **Gestation Time vs. Life Span:**
   * Are animals with longer gestation periods likely to live longer?
4. **Predation and Sleep Exposure Indices vs. Total Sleep:**
   * High **predation risk** or **exposure** might reduce sleep duration.

Updated dataset columns data:-

| **Column Name** | **Short Explanation** |
| --- | --- |
| name | Name or ID of the individual or animal being studied. |
| gender | Gender of the subject (e.g., Male or Female). |
| max\_life\_span | Maximum expected lifespan of the subject (in years). |
| body\_weight | Total body weight (likely in kilograms). |
| brain\_weight | Brain weight (likely in grams or kilograms). |
| sleep\_exposure\_index | Score indicating how much environmental or behavioral exposure influences sleep. |
| danger\_index | Measure of how dangerous the subject's environment is, possibly affecting sleep duration. |
| total\_sleep | Total average sleep per day (in hours). |
| gestation\_time | Gestation period (in days), may be used in animal datasets. |
| predation\_index | Indicates how at-risk the subject is from predators (higher = more threat). |
| age | Current age of the subject (in years). |
| bmi | Body Mass Index, indicating health based on weight and height. |
| stress\_level | A quantified level of stress, typically from 0 to 10 or a similar scale. |
| screen\_time\_before\_bed | Time spent using screens (phone, TV, etc.) before bed (in minutes or hours). |
| exercise\_frequency | How often the subject exercises (e.g., times per week). |