Exercise 1
Data Analysis

About Dataset:

This dataset contains accelerometer and gyroscope readings gathered from participants performing a variety of exercises. It includes sensor data from the accelerometer (x, y, z axes) and gyroscope (x, y, z axes) across different exercise types and intensities. This data is well-suited for analyzing movement patterns, developing activity recognition models, and training machine learning algorithms for fitness and health monitoring.

- **ep (ms)**: Timestamp in milliseconds, representing the exact recording time.
- **Acc_x**: X-axis acceleration value from the fitness tracker.
- **Acc_y**: Y-axis acceleration value from the fitness tracker.
- **Acc_z**: Z-axis acceleration value from the fitness tracker.
- **Gyro_x**: X-axis rotational velocity (gyroscope) reading.
- **Gyro_y**: Y-axis rotational velocity (gyroscope) reading.
- **Gyro_z**: Z-axis rotational velocity (gyroscope) reading.
- **ID**: Identifier for the individual performing the exercise.
- **Exercise**: Type of exercise or movement (e.g., bench press, overhead press).
- **Category**: Intensity of the exercise (e.g., heavy, medium).
- **Set**: Set number or batch identifier for the recorded session.

Questions :

1- Write a function to load the dataset.
2- Write a function to display basic information about the dataset.
3- Write a function to calculate the central tendencies of an attribute.
4- Write a function to calculate the quartiles (Q0, Q1, Q2, Q3, Q4) of an attribute.
5- Write a function to display the number and percentage of missing values for an attribute.
6- Write a function to display the number of unique values for an attribute.

Dataset: DatasetExos.csv is available on this link.

Have fun !