In Class Exercise: Exploring Daily Minimum Temperatures Dataset

Use this kaggel data: https://www.kaggle.com/datasets/shenba/time-series-datasets?select=daily-minimum-temperatures-in-me.csv

Objective: Apply your knowledge of the `datetime` library and pandas to analyze and manipulate time-series data.

1. **Load the Dataset**

   - Load the dataset into a pandas DataFrame.

   - Inspect the dataset (e.g., `head()`, `info()`, `describe()`).

2. **Convert Date Column**

   - Convert the date column to a `datetime` object

   - Verify the data type of the column.

3. **Extract Features**

   - Extract the year, month, and day from the date column and add them as new columns.

   - Create a column for the day of the week (e.g., Monday, Tuesday).

4. **Filter Data**

   - Filter the dataset to include only the temperatures from a specific year (e.g., 1985).

   - Count how many days in 1985 had a temperature below a certain threshold (e.g., 10°C).

5. **Analyze Time Periods**

   - Group the data by year and calculate the average minimum temperature for each year.

- Find the year with the highest and lowest average minimum temperatures.

6. **Summary**

   - Write a brief summary (1-2 paragraphs) of your findings.