

Advanced Python

pandas Basics

Hands on Exercise - Electric Car Sales

The data file `EcarSalesByCountryAndYear.csv` has annual sales of electric cars for selected countries and years. In this exercise, you will analyze electric car sales growth by country, continent, and overall.

Part A: Data Preparation

- 1) Read the file `EcarSalesByCountryAndYear.csv`¹ into a `DataFrame`; display the `DataFrame`
- 2) Read the file `EcarSalesByCountryAndYear.csv` into a `DataFrame`
use the `Country` as the `DataFrame`'s index
display the `DataFrame`
- 3) Calculate the sales growth between the last two years
and append this to the `DataFrame` as a column called `'Growth'`
- 4) If your growth value is in decimal, rescale the growth column to a percentage
- 5) Round the growth column to 1 decimal place

Part B: Country Sales Review

- 6) Display the `DataFrame` sorted by `Growth`, from high to low
- 7) Create a new `DataFrame` called `dfRecent`, with only columns `Sales2021` and `Sales2020`
- 8) From `dfRecent`, use a filter to display only United States and Canada
- 9) Use `dfRecent` to display the total sales across countries for 2020 and 2021

Part C: Continent Review

- 10) Calculate and display sales by Continent by Year
- 11) What was the 2022 vs. 2021 growth in electric cars sales, by continent?

¹ From Wikipedia: https://en.wikipedia.org/wiki/Electric_car_use_by_country