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April 15, 2025

1 Analysing COVID-19 Data
1.1 Data Preparation
1. Filtering and Selecting
2. Treating missing values
3. Removing Duplicates
4. Concatenating and Transforming
5. Group and Aggregation
1.2 Installing pandas
[1]: pip install pandas

Defaulting to user installation because normal site-packages is not writeable
Requirement already satisfied: pandas in ./local/lib/python3.10/site-packages
(2.2.3)
Requirement already satisfied: pytz>=2020.1 in /usr/lib/python3/dist-packages
(from pandas) (2022.1)
Requirement already satisfied: python-dateutil>=2.8.2 in
./local/lib/python3.10/site-packages (from pandas) (2.9.0.post0)
Requirement already satisfied: numpy>=1.22.4 in ./local/lib/python3.10/site-
packages (from pandas) (2.2.4)
Requirement already satisfied: tzdata>=2022.7 in ./local/lib/python3.10/site-
packages (from pandas) (2025.2)
Requirement already satisfied: six>=1.5 in /usr/lib/python3/dist-packages (from
python-dateutil>=2.8.2->pandas) (1.16.0)
1.3 Filtering and Selecting
[2]: import pandas as pd

1.4 Data Loading
[3]: covid_19_data_url = 'https://raw.githubusercontent.com/CSSEGISandData/COVID-19/
refs/heads/master/csse_covid_19_data/csse_covid_19_time_series/
time_series_covid19_confirmed_global.csv'
covid_19 = pd.read_csv(covid_19_data_url)

1
```