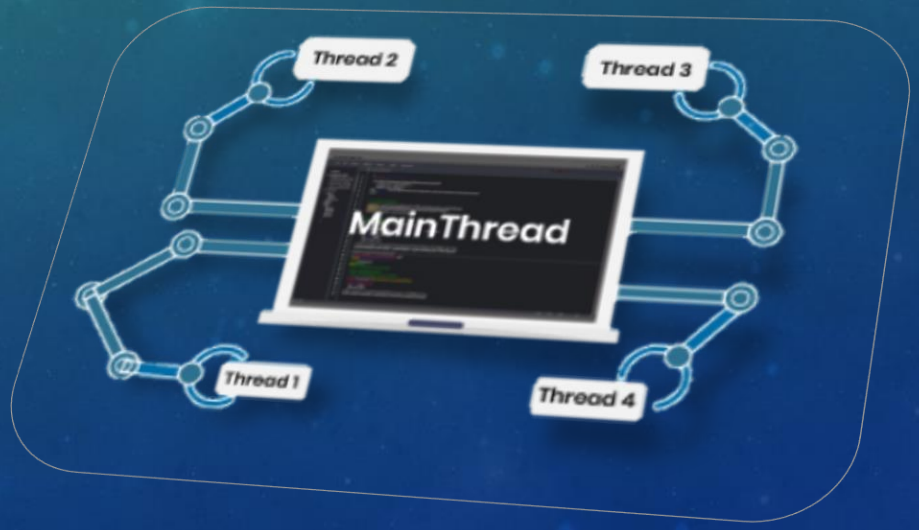
LAB3

ASYNCHRONOUS PROGRAMMING



From this website:

https://gml.noaa.gov/aggi/aggi.html

Scrape the website data or scrape the csv data file (not download):

Table 2: Global Radiative Forcing

Store the data in your SQLite database from previous lab assignments.

Create 6 threaded agents for the Global Radiative Forcing annual values. These agents extract the yearly data one at a time over the range 1990 thru 2019.

Threading rules:

- Only one threaded agent can access the database at a time.
- The database inquiry only requests one cell of data per request.
- The agents must make repeated requests for yearly data.

After collecting the data, plot the liner regression for each gas using either Matplotlib or Plotly.

Agent1

Agent2

...

Agent6

Table 2. Global Radiative Forcing, CO_2-equivalent mixing ratio, and the AGGI 1979-2019

Global Radiative Forcing ($W\ m^{-2}$)								CO_2-eq (ppm)	AGGI	
Year	CO_2	CH_4	N_2O	CFCs*	HCFCs	HFCs*	Total	Total	1990 = 1	% change *
1979	1.027	0.406	0.104	0.154	0.008	0.001	1.700	382	0.785	
1980	1.060	0.413	0.104	0.163	0.009	0.001	1.750	386	0.808	2.3
1981	1.079	0.420	0.107	0.172	0.009	0.001	1.788	388	0.825	1.8
1982	1.091	0.426	0.111	0.180	0.010	0.001	1.820	391	0.840	1.5
1983	1.117	0.429	0.113	0.190	0.011	0.001	1.861	394	0.859	1.9

CSV FILE INFO

Option: Scrape, not download, the CSV file instead of scraping table.

2019	2.079	0.515	0.202	0.250	0.057	0.039	3.143	500	1.451	1.8
2020	2.111	0.520	0.206	0.248	0.057	0.041	3.183	504	1.470	1.8

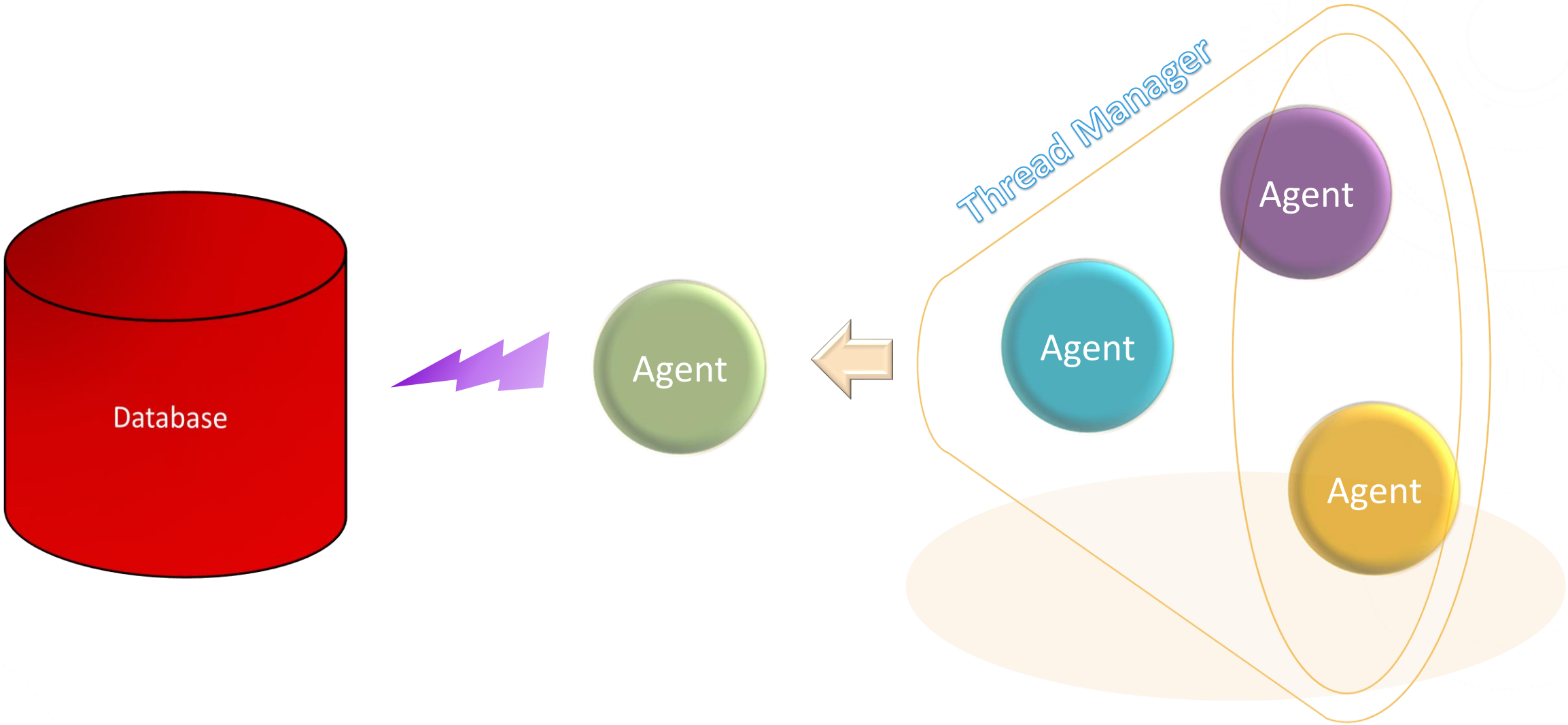
* for the list of chemicals included in "CFCs*" and "HFCs*" see caption to Figure 3

* annual change (in %) is calculated relative to 1990

e.g., %change Yr2 - Yr1 = 100 * (RFYr2 - RFYr1)/RF1990

Click here to download this table as comma separated values (csv).

Click here to download measured global annual mean dry-air mole fractions used in deriving the radiative forcing values provided in Table 2 and the AGGI.


Database
Agent
Thread Manager
Agent
Agent
Agent

Create the 6 agents to handle the annual data. These agents extract the yearly data a time over the range 1990 thru 2019. When the data has been extracted, the plot a linear regression for each threaded agent.

Threading rules:

- Only one agent can access the database at a time.
- The database inquiry only request one cell of data per request for data.
- The agents must make repeated requests for annual data.

After collecting the data, plot a liner regression for each gas using either Matplotlib or Plotly.