

- -> notebooks from this lecture: <https://www.freecodecamp.org/learn/data-analysis-with-python/data-analysis-with-python-course/reading-data-from-databases>
- -> reading data from databases
- -> how data is processed
- -> depending on the database engine we are using
- -> the APIs are the same
- -> PEP from Python
- -> pandas can also work with this
- -> in this example, we are using SQL lite
- -> how to read data from files using Python
 - -> open <- this was how files were opened using Python before pandas existed
 - -> using the Python interface
 - -> importing SQL Lite 3
 - -> the default behaviour
 - -> execute queries using a cursor
 - -> then using a fetch all to get the results of the query -> this returns the results of a query
- -> how we work with Pandas
 - -> we have a read CSV method, and a read CSV method
 - -> the query that issues the connection to pandas
 - -> going from something manual to something which uses Pandas to import the data from the database
- -> caveat
 - -> the read SQL method is a shell for two other methods -> read SQL table and query
 - -> issuing a query and the connection reading it for us
 - -> automatically giving us the information for it
 - -> to use the method, we need to install the libraries SQL alchemy
 - -> creating connection objects
 - -> starting from the table
 - -> the read CSV method
- -> we also have the to SQL method
 - -> writing the data into a database table
 - -> it receives the table name and a connection object
 - -> if the table already exists, this will return an error
 - -> we are usually reading (rather than writing) the data
 - -> to write the data -> replace or append
 - -> we are writing to intermediary tables
 - -> to append data to a table
 - -> using the read method to read CSV data into an SQL database in Python
- -> **next <- reading HTML files**
 - -> this can also be read from HTML pages
 - -> this depends on how well the HTML page is structured
 - -> for example, Wikipedia
 - -> this works well -> for example when we are looking for the GDP of countries
 - -> you can parse the information from Wikipedia
 - -> we have HTML created for testing purposes <- see the project notebook whose link is at the top of this document
 - -> invoke the read html method -> this parses the entire html and looks for multiple tables
 - -> using / parsing tables
 - -> only using one
 - -> the same thing happens for headers
 - -> in this example, the table doesn't have a header

• -> **question**

What method does a Cursor instance have and what does it allow?

- options
 - The Cursor instance has a `.run()` method which allows you to run SQL queries.
 - The Cursor instance has a `.select()` method which allows you to select records.
 - The Cursor instance has an `.execute()` method which will receive SQL parameters to run against the database. <- This one