* Getting started with Database Programming using Pandas
* Role of SQLAlchemy and psycopg2
* Read data from Database Table into Dataframe
* Read query results into Dataframe
* Database Programming Best Practices
* Write data from Dataframe to Database Table
* Overview of using method in to\_sql
* Exercise and Solution

1. What is the role of SQLAlchemy in database programming with Pandas?

a) It is a database driver that enables communication between Python and the database

b) It is a library for creating and managing databases

c) It is a tool for writing SQL queries

d) It is a data analysis library for Python

Answer: a) It is a database driver that enables communication between Python and the database

1. What is the role of psycopg2 in database programming with Pandas?

a) It is a database driver that enables communication between Python and the database

b) It is a library for creating and managing databases

c) It is a tool for writing SQL queries

d) It is a data analysis library for Python

Answer: a) It is a database driver that enables communication between Python and the database

1. How do you read data from a database table into a Pandas DataFrame using Python?

a) Use the read\_table() method

b) Use the read\_sql() method

c) Use the read\_csv() method

d) Use the read\_json() method

Answer: b) Use the read\_sql() method

1. How do you read query results into a Pandas DataFrame using Python?

a) Use the read\_query() method

b) Use the read\_sql() method

c) Use the read\_csv() method

d) Use the read\_json() method

Answer: b) Use the read\_sql() method

1. What are some best practices for database programming with Pandas?

a) Always use the to\_sql() method for writing data to the database

b) Avoid using SQL queries and instead use Pandas methods for data manipulation

c) Use the with statement to ensure proper handling of database connections

d) None of the above

Answer: c) Use the with statement to ensure proper handling of database connections

1. How do you write data from a Pandas DataFrame to a database table using Python?

a) Use the write\_table() method

b) Use the write\_sql() method

c) Use the to\_csv() method

d) Use the to\_sql() method

Answer: d) Use the to\_sql() method

1. What is the overview of the to\_sql() method in Pandas?

a) It writes data from a Pandas DataFrame to a database table

b) It reads data from a database table into a Pandas DataFrame

c) It executes SQL queries and returns the result as a Pandas DataFrame

d) None of the above

Answer: a) It writes data from a Pandas DataFrame to a database table

1. What is the syntax for writing data from a Pandas DataFrame to a database table using the to\_sql() method?

a) dataframe.to\_sql(table\_name, connection)

b) connection.to\_sql(dataframe, table\_name)

c) table\_name.to\_sql(connection, dataframe)

d) connection.to\_sql(table\_name, dataframe)

Answer: d) connection.to\_sql(table\_name, dataframe)

1. Which of the following statements is true about using the with statement for database programming with Pandas?

a) It ensures that the database connection is properly closed after use

b) It simplifies the process of writing SQL queries

c) It is not recommended for database programming with Pandas

d) None of the above

Answer: a) It ensures that the database connection is properly closed after use

1. Which of the following is an exercise you can do to practice database programming with Pandas?

a) Write a Python SQL query to select data from a database table and read the result into Pandas DataFrame

b) Write a Python script to create a new database table and populate it with data from a Pandas DataFrame

c) Write a Python function that takes a database table name as input and returns a summary of the data in the table as a Pandas DataFrame

d) All of the above

Answer: d) All of the above