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| **Experiment 1** | |
| **HONOUR PLEDGE** |  |
| **PROBLEM STATEMENT :** | Data Importing and Exporting:  1. Read a CSV file into a pandas Data Frame  2. Export a Data Frame to an Excel file.  3. Load JSON data into Data Frame |
| **THEORY:** | **1. CSV (Comma-Separated Values):**  CSV is a simple and widely used file format for storing tabular data, where each line represents a row, and values within each line are separated by commas. It is a plain-text format that is easy to read and write, making it a popular choice for storing and exchanging structured data.  Example:  **Name, Age, City**  **John, 28, New York**  **Alice, 24, San Francisco**  **Bob, 32, Chicago**  **2. JSON (JavaScript Object Notation):**  JSON is a lightweight data-interchange format that is easy for humans to read and write and easy for machines to parse and generate. It is primarily used to transmit data between a server and a web application as an alternative to XML. JSON is structured as key-value pairs and supports nested structures.  Example:  {  **"name": "John",**  **"age": 28,**  **"city": "New York"**  **}**  **3. Data Frames**  Data Frames are two-dimensional, tabular data structures in which data is organized in rows and columns. They are a key component of data manipulation and analysis, providing a convenient way to work with structured data. In Python, the Pandas library is commonly used to create and manipulate Data Frames.  Example:  **Name Age City**  **0 John 28 New York**  **1 Alice 24 San Francisco**  **2 Bob 32 Chicago**  **4. Pandas Library (Python):**  Pandas is a powerful open-source data manipulation and analysis library for Python. It provides data structures like Series and Data Frame, which are designed to handle and manipulate structured data efficiently. Pandas simplifies tasks such as reading and writing data, cleaning, transforming, and analyzing data.  Example: To read csv using pandas: import pandas as pd  **df\_csv = pd.read\_csv('example.csv')** |
| **PROGRAM:** | **Python Notebook \*.ipynb file:** |
| **RESULT:** | **1. Startup\_funding.xlsx:**    **2. islands.xlsx:** |
| **CONCLUSION:**  In this experiment, we learned how to use pandas library to import csv and Json data files and convert them into data frames and then export them as excel sheets. We also learned how to analyze the data by providing relevant questions and answers on the dataset given. | |