Hands on exercise on json and csv:

# JSON Exercises

import csv

import json

''' Exercise 1: Reading a JSON File

1. Create a JSON file named `data.json` with the following content:

```json

{

"name": "John Doe",

"age": 30,

"city": "New York",

"skills": ["Python", "Machine Learning", "Data Analysis"]

}

```

2. Write a Python script to read and print the contents of the JSON file.'''

with open('D:/Desktop/data.json', 'r') as file:

data = json.load(file)

print(data)

''' Exercise 2: Writing to a JSON File

1. Create a Python dictionary representing a person's profile:

```python

profile = {

"name": "Jane Smith",

"age": 28,

"city": "Los Angeles",

"hobbies": ["Photography", "Traveling", "Reading"]

}

```

2. Write a Python script to save this data to a JSON file named `profile.json`.'''

profile = {

"name": "Jane Smith",

"age": 28,

"city": "Los Angeles",

"hobbies": ["Photography", "Traveling", "Reading"]

}

with open('D:/Desktop/profile.json', 'w') as file:

json.dump(profile, file)

'''Exercise 3: Converting CSV to JSON

1. Using the `students.csv` file from the CSV exercises, write a Python script to read the file and convert the data to a list of dictionaries.

2. Save the list of dictionaries to a JSON file called `students.json`.'''

students = []

with open('D:/Desktop/students.csv', mode='r') as file:

csv\_reader = csv.DictReader(file)

for row in csv\_reader:

students.append(row)

with open('D:/Desktop/students.json', 'w') as file:

json.dump(students, file)

''' Exercise 4: Converting JSON to CSV

1. Using the `data.json` file from Exercise 1, write a Python script to read the JSON data.

2. Convert the JSON data to a CSV format and write it to a file named `data.csv`.'''

with open('D:/Desktop/data.json', 'r') as file:

data = json.load(file)

with open('D:/Desktop/data.csv', mode='w', newline='') as file:

csv\_writer = csv.writer(file)

csv\_writer.writerow(data.keys())

csv\_writer.writerow(data.values())

'''Exercise 5: Nested JSON Parsing

1. Create a JSON file named `books.json` with the following content:

```json

{

"books": [

{"title": "The Great Gatsby", "author": "F. Scott Fitzgerald", "year": 1925},

{"title": "War and Peace", "author": "Leo Tolstoy", "year": 1869},

{"title": "The Catcher in the Rye", "author": "J.D. Salinger", "year": 1951}

]

}

```

2. Write a Python script to read the JSON file and print the title of each book.'''

with open('D:/Desktop/books.json', 'r') as file:

books\_data = json.load(file)

for book in books\_data['books']:

print(book['title'])