# Exercise 1: Reading a JSON File  
# 1. Create a JSON file named `data.json` with the following content:  
import csv  
import json  
data = {  
 "name": "John Doe",  
 "age": 30,  
 "city": "New York",  
 "skills": ["Python", "Machine Learning", "Data Analysis"]  
}  
  
with open("C:/Users/chand/Documents/data1.json","w") as file:  
 json.dump(data, file)  
# 2. Write a Python script to read and print the contents of the JSON file.  
with open("C:/Users/chand/Documents/data1.json","r") as file:  
 loaded\_data = json.load(file)  
 print(loaded\_data)  
  
# Exercise 2: Writing to a JSON File  
# 1. Create a Python dictionary representing a person's profile:  
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`.  
with open("C:/Users/chand/Documents/profile.json","w") as file:  
 json.dump(data, 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.  
students = []  
with open("C:/Users/chand/Documents/data.csv","r") as file:  
 reader = csv.DictReader(file)  
 for row in reader:  
 students.append(row)  
# 2. Save the list of dictionaries to a JSON file called `students.json`.  
with open("C:/Users/chand/Documents/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.  
with open('C:/Users/chand/Documents/data.json', 'r') as json\_file:  
 json\_loaded = json.load(json\_file)  
print(json\_loaded)  
# 2. Convert the JSON data to a CSV format and write it to a file named `data.csv`.  
with open("C:/Users/chand/Documents/data1.csv", "w", newline='') as file:  
 writer = csv.writer(file)  
 writer.writerow(json\_loaded.keys())  
 writer.writerow(json\_loaded.values())  
  
  
# Exercise 5: Nested JSON Parsing  
# 1. Create a JSON file named `books.json` with the following content:  
data\_book = {  
 "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}  
 ]  
 }  
  
with open("C:/Users/chand/Documents/books.json","w") as file:  
 json.dump(data\_book, file)  
  
# 2. Write a Python script to read the JSON file and print the title of each book.  
  
with open("C:/Users/chand/Documents/books.json","r") as file:  
 book\_data = json.load(file)  
for book in book\_data["books"]:  
 print(book["title"])