Lab 5: Data Loading and Storage

For each task below, show your Python code and the corresponding output. Comment your code for clarity. Submit your Python code (.py) and a Word document with screen images to Blackboard for grading. You'll also submit your CSV file.

Part 1: CSV Data Handling

1. Create a free account at Kaggle and download the dataset 'winequality-red.csv'.

2. Upload the dataset to your Jupyter Notebook using Pandas.

3. Add a new column to assign a unique ID to each row.

4. Display the first 10 rows of the updated DataFrame.

5. Use the DataFrame's to_csv method to write the modified data to a new CSV file.

6. Include the exported CSV file with your submission.

Part 2: JSON Operations

7. Convert a sample JSON string into a Python object.

8. Convert a Python object into JSON data.

9. Convert various Python objects into JSON strings and print the outputs.

10. Convert a Python dictionary (sorted by keys) into a formatted JSON string with an indent level of 4. Print the output.

Part 3: Working with NBA API

11. Install the NBA API package using: pip install nba_api

12. Run the following code to get player and team IDs:

from nba_api.stats.static import players

player_dict = players.get_players()

bron = [player for player in player_dict if player['full_name'] == 'LeBron James'][0]

bron_id = bron['id']

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from nba_api.stats.static import teams
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```
teams = teams.get_teams()
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```
GSW = [x for x in teams if x['full_name'] == 'Golden State Warriors'][0]
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```
GSW_id = GSW['id']
```

13. Using what you've learned, collect game data for a player of your choice and export it to a CSV file.