Python File Tennis Tutorials

Read/Watch the required knowledge, and complete each section’s activity

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# 1: Loading and Writing Art

**Required Knowledge:**

Read instructions on how with/open works

<https://www.pythonforbeginners.com/files/with-statement-in-python>

**Activities:**

Create small program to take two arguments --text --file  
  
The program will convert the text into ascii art using the art pypi library, and write it into the file location specified  
  
<https://pypi.org/project/art/>

# 2: JSON Wolves

**Required Knowledge:**Read through history and description of JSON  
<https://en.wikipedia.org/wiki/JSON>

Read JSON tutorial   
just read through, and download completed github example, if struggling  
<https://developer.mozilla.org/en-US/docs/Learn/JavaScript/Objects/JSON>

Read about what json are:

<https://en.wikipedia.org/wiki/JSON>

Read instructions on how json libraries work   
<https://docs.python.org/3/library/json.html>

**Activities:**

Encode the dire wolves of GOT information as a json file using notepad++

Open json in chrome, make sure it works

**Activities:**

Create app to load the json directly into python using the json library

**Data to encode:**

Encode the dire wolves of GOT information

Grey Wind

Robb's direwolf

Deceased

Lady

Owner: Sansa's direwolf

Status: Deceased

Nymeria

Owner: Arya's direwolf

Status: Living

Summer

Owner: Bran's direwolf

Status: Deceased

Shaggydog

Owner: Rickon's direwolf

Status: Deceased

Ghost

Owner: Jon's direwolf

Status: Living

# 3: CSV Heroes

**Required Knowledge:**Read through history and description of CSV  
<https://en.wikipedia.org/wiki/Comma-separated_values>

Read about what csv are:  
<https://en.wikipedia.org/wiki/CSV>

Read instructions on how csv libraries work

<https://docs.python.org/3/library/csv.html>

**Activities:**

Encode the previous marvel heroes information as a CSV file using notepad++  
  
Open CSV in excel  
If it doesn’t work don’t panic!  
  
Now create marvel heroes information as a CSV in excel, then open in notepad++  
***lesson****: sometimes notepad++ isn’t the right tool for the job*

**Activities:**

Create app to load the csv directly into python using the csv library

**Data to encode:**

Encode the marvel heroes information

Iron Man

Location: New York

First Villain: Obadian Stane

Hulk

Location: Ohio

First Villain: Abomination

Thor

Location: Asgard

First Villain: Loki

# 4: Double Format Fun: csv, json, and boiler plate

**Required Knowledge:**  
Read about what json/csv are:  
<https://en.wikipedia.org/wiki/CSV>

<https://en.wikipedia.org/wiki/JSON>

Read instructions on how json/csv libraries work

<https://docs.python.org/3/library/csv.html>   
<https://docs.python.org/3/library/json.html>

**Activities:**

Create small program to convert json to csv and vice versa

./json-to-csv.py --input xxx.json --output xxx.csv

./csv-to-json.py --input xxx.csv --output xxx.json

Note:

Json format expected would be a list of dicts with same keys

Excel format would be expected to be excel dialect

**Bonus Activities:**

Handle parsing errors, and file loading errors