Data Files

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Outline

- Data File Writing
- Data File Reading
- CSV File Reading
- CSV File Writing
- List and Dictionary to JSON File
- Exception Handling

Data File

Writing

In [13]:

```
# Writing File

# with open(path,mode)

with open("files/greet.txt", "w") as f:
    f.write("Hello, world!")
```

Reading

In [14]:

```
# Reading File

with open("files/greet.txt", "r") as f:
    text_of_file = f.read()
    print(text_of_file)
```

```
Hello, world!
```

In [15]:

```
# By default file opens in read mode

with open("files/greet.txt") as f:
    text_of_file = f.read()
    print(text_of_file)
```

```
Hello, world!
```

Appending

In [1]:

```
# Appending File

with open("files/greet.txt", "a") as f:
    f.write("\nHave a nice day!")


with open("files/greet.txt") as f:
    text_of_file = f.read()
    print(text_of_file)
```

```
Hello, world!
Have a nice day!
Have a nice day!
Have a nice day!
```

CSV File

(Comma Separated Values)

Reading

In [5]:

```
import csv
# a,b,c,d
with open("files/competition.csv") as f:
    contents_of_file = csv.reader(f)
    print(contents_of_file)
```

```
<_csv.reader object at 0x0000018A2B750320>
```

In [8]:

```
with open("files/competition.csv") as f:
    reader_of_f = csv.reader(f)
    potter_competitions = []
    for each_line in reader_of_f:
        potter_competitions += each_line

print(potter_competitions)
```

```
['First_Name', 'Last_Name', 'ID', 'Department', 'Ali', 'Shaikh', '0000-00-
0001', 'BBA', 'Aqib', 'Durani', '0000-00-0002', 'BBA', 'Ahmed', 'Khan', '0
000-00-0003', 'EE']
```

In [7]:

```
#Printing Data
# [1,...,n]
lst = range(len(potter_competitions))
# zip(it1,it)
for i,  val in zip(lst,potter_competitions ):
    if i % 4 == 0:
        print()
    print(val , end="\t\t")
```

```
First_Name              Last_Name               ID              Department
Ali             Shaikh          0000-00-0001            BBA
Aqib            Durani          0000-00-0002            BBA
Ahmed           Khan            0000-00-0003            EE
```

Writing CSV

In [9]:

```
with open("files\whatever.csv", "w", newline="") as f:

    data_handler = csv.writer( f, delimiter="," )

    data_handler.writerow( ["Year", "Event","Winner"] )

    data_handler.writerow( ["1995", "Best-Kept Lawn","None"] )

    data_handler.writerow( ["1999", "Gobstones","Welch National"] )
```

In [10]:

```
with open("files\whatever.csv", "a", newline="") as f:

    data_handler = csv.writer(f, delimiter=",")

    data_handler.writerow(["2006", "World Cup","Burkina Faso"])

    data_handler.writerow(["2011", "Butter Cup","France"])

    data_handler.writerow(["2012", "Coffee Cup","Brazil"])

with open("files/whatever.csv") as f:
    reader_of_f = csv.reader(f)
    potter_competitions = []
    for each_line in reader_of_f:
        potter_competitions += each_line

print(potter_competitions)
```

```
['Year', 'Event', 'Winner', '1995', 'Best-Kept Lawn', 'None', '1999', 'Gob
stones', 'Welch National', '2006', 'World Cup', 'Burkina Faso', '2011', 'B
utter Cup', 'France', '2012', 'Coffee Cup', 'Brazil']
```

List and Dictionary to JSON File

(Java Script Object Notation)

Writing

In [51]:

```
alphabet_letters = ["a", "b", "c"]
with open("files/alphabet_list.txt", "w") as f:
    f.write(alphabet_letters)
```

```
---------------------------------------------------------------------------
-
TypeError                                 Traceback (most recent call las
t)
<ipython-input-51-9e3680e5b6d0> in <module>
      1 alphabet_letters = ["a", "b", "c"]
      2 with open("files/alphabet_list.txt", "w") as f:
----> 3     f.write(alphabet_letters)

TypeError: write() argument must be str, not list
```

In [54]:

```
import json

alphabet_letters = ["a", "b", "c"]
with open("files/alphabet_list.json", "w") as f:
    json.dump(alphabet_letters, f)
```

Reading

In [56]:

```
with open("files/alphabet_list.json") as f:
    alphabet_letters = json.load(f)
    print(alphabet_letters)
```

```
['a', 'b', 'c']
```

In [55]:

```
customer_29876 = {
    "first name": "David",
    "last name": "Elliott",
    "address": "4803 Wellesley St.",
}

with open("files/customer_29876.json", "w") as f:
    json.dump(customer_29876, f)
```

In [58]:

```
with open("files/customer_29876.json") as f:
    customer_29876 = json.load(f)
    print(customer_29876)
```

```
{'first name': 'David', 'last name': 'Elliott', 'address': '4803 Wellesley
St.'}
```

Exception Handling

In [61]:

```
try:
    filename = input("What text file to open? ")
    with open(filename) as f:
        print(f.read())
except FileNotFoundError:
    print("Sorry, " + filename + " not found.")
```

```
What text file to open? files/greet.txt
Hello, world!
Have a nice day!
Have a nice day!
```

In [62]:

```
try:
    filename = input("What text file to open? ")
    with open(filename) as f:
        print(f.read())
except FileNotFoundError:
    print("Sorry, " + filename + " not found.")
```

```
What text file to open? files/abc.txt
Sorry, files/abc.txt not found.
```

The End!