



CSV DictReader & HW5

CSE 160

Summer 2026

Questions?



Announcements

- [Homework Assignment 5](#) due Monday, August 17 at 11:59 PM
- [Programming Practice 6](#) due Sunday, August 9 at 11:59 PM
- [Resubmission Cycle 3](#) due Sunday, August 9th at 11:59pm
 - Homeworks 1-3 eligible
 - Fill out the [Google Form!](#)
- [Final Exam information and Practice Finals](#) now available on course website!
 - Final Exam on Friday, August 21 at 9:40am in HRC 155

Today's Roadmap

1. `csv.DictReader`
2. HW5
3. Examples

[Jupyter Hub](#)

Reading in Files for HW3 and HW4

What have been the **format** of files we have been reading in so far?

- HW3: homework/homework3/test_grids/medium_grid.csv
- HW4: homework/homework4/data/2d.csv

These are csv files: "**C**omma **S**eparated **V**alues".

In JupyterHub: Right click on them and select "Open With" and "Editor"

Notice: Each line of these files have identical format

Reading in Files for HW5

The **format** of the dta files for HW5 is different:

- HW5: homework/homework5/small.csv

These are csv files: "**C**omma Separated **V**alues".

In JupyterHub: Right click on them and select "Open With" and "Editor"

Notice:

- The first line is different! It contains column headers, not data.
- After the first line, each line contains data

csv.DictReader

- `csv.DictReader()` is a Python class that is part of the `csv` package
 - We must import the `csv` package to gain access to this class
- Creates a **reader object** that maps information from a csv file into a sequence of dictionaries
 - Each row of data will be a separate dictionary
 - The columns will act as the keys for this dictionary
 - The data will act as values for each respective key

Example .csv File

CSV data

```
#,Name,Type 1,Type 2,Total
1,Bulbasaur,Grass,Poison,318
2,Ivysaur,Grass,Poison,405
3,Venusaur,Grass,Poison,525
```

First line (column header) will be used as the dictionary **keys**

Remaining lines are dictionary **values** and paired with the corresponding (column) key value

Three python dictionaries will be created from this .csv file:

```
{'#': '1', 'Name': 'Bulbasaur', 'Type 1': 'Grass', 'Type 2': 'Poison', 'Total': '318'}
{'#': '2', 'Name': 'Ivysaur', 'Type 1': 'Grass', 'Type 2': 'Poison', 'Total': '405'}
{'#': '3', 'Name': 'Venusaur', 'Type 1': 'Grass', 'Type 2': 'Poison', 'Total': '525'}
```

<https://www.kaggle.com/datasets/abcsds/pokemon/data>

Using csv.DictReader on a .csv File

ruth_pokemon.csv

```
#,Name,Type 1,Type 2,Total  
1,Bulbasaur,Grass,Poison,318  
2,Ivysaur,Grass,Poison,405  
3,Venusaur,Grass,Poison,525
```

```
import csv  
file = open("adrians_pokemon.csv")  
reader = csv.DictReader(file)  
  
for row in reader:  
    print(row)  
  
file.close()
```

This code would print out these three dictionaries:

```
{'#': '1', 'Name': 'Bulbasaur', 'Type 1': 'Grass', 'Type 2': 'Poison', 'Total': '318'}  
{'#': '2', 'Name': 'Ivysaur', 'Type 1': 'Grass', 'Type 2': 'Poison', 'Total': '405'}  
{'#': '3', 'Name': 'Venusaur', 'Type 1': 'Grass', 'Type 2': 'Poison', 'Total': '525'}
```

Useful tips when using DictReader

- Remember: DictReader is a reader object so if you iterate through it once, you cannot iterate from the beginning.
- DictReader has some useful attributes
 - `DictReader.line_num`: returns the current line number you are on in the csv file
 - `DictReader.fieldnames`: returns a list of the csv file columns
- You can read more about the DictReader object [here](#)

Think Pair Share

Select all of the statements that will result in an error (or indicate that none do):

- A. `print(adrians_cards[3]["Name"])`
- B. `print(adrians_cards[2][Total])`
- C. `adrians_cards[1]["extra"] = 24`
- D. `print(adrians_cards[0]["Type 2"])`
- E. None of these cause an error

```
import csv
file = open("adrians_pokemon.csv")
reader = csv.DictReader(file)
adrians_cards = []
for row in reader:
    adrians_cards.append(row)
file.close()
# line of code goes here
```

```
#,Name,Type 1,Type 2,Total
1,Bulbasaur,Grass,Poison,318
2,Ivysaur,Grass,Poison,405
3,Venusaur,Grass,Poison,525
```

