An Introduction to STEM Programming with Python 3 – Chapter 10
Comma Separated Values in Files

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In this video we will cover:

- ✔ The csv module

- ✔ Special Argument in File open

- ✔ The CSV Writer
    - – Lists to a file
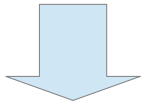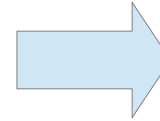
- ✔ The CSV Reader
    - – Lists from a file

The csv Module

- `import csv`
- Loads the Comma Separated Value module
- The csv module has two parts
  - `.reader`
  - `.writer`
- The file open needs special third argument
  - `newline=''`

Writing Lists to a File

```
1  import csv
2  import random
3  with open("pick4.csv", "w", newline='') as stream:
4      writer = csv.writer(stream)
5      for n in range(100):
6          drawing = []
7          for i in range(4):
8              drawing.append(random.randrange(10))
9          writer.writerow(drawing)
10     print("done")
```

done

File: pick4.csv
```
1,4,4,9
5,0,1,8
8,8,9,6
1,8,8,0
3,7,9,2
5,3,5,4
...
9,3,2,0
1,5,1,3
2,6,3,7
0,1,1,2
3,2,6,4
2,9,2,1
3,7,5,3
```

Using the `reader`

- The reader will read the next line from a file

- Strips off the EOL character

- Converts it to a list of strings

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Reading Lists From a File

```
1  import csv
2  with open("pick4.csv","r", newline='') as stream:
3      reader = csv.reader(stream)
4      count = [0,0,0,0,0,0,0,0,0,0]
5      for drawing in reader:
6          for element in drawing:
7              i = int(element)
8              count[i] = count[i] + 1
9      print(count)
```

```
File: pick4.csv
1,4,4,9
5,0,1,8
8,8,9,6
1,8,8,0
3,7,9,2
5,3,5,4
...
9,3,2,0
1,5,1,3
2,6,3,7
0,1,1,2
3,2,6,4
2,9,2,1
3,7,5,3
```
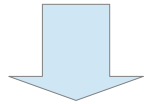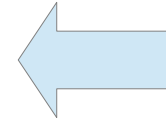
[38, 32, 43, 43, 38, 42, 46, 42, 36, 40]

Thank you

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