

# CSc 110, Autumn 2017

## Lecture 25: File output

Adapted from slides by Marty Stepp and Stuart Reges



Autopsy Report:

Dr. Andrew Esty

Time of Death: 03/16 11:53

Cause of Death: Rounding Errors

# Section attendance question

- Read a file of section attendance (*see next slide*):

```
yynyyynayayynyyyayanyyyaynayyayyanayyyyanyayna  
ayyanyyyyayanaayyanayyyananayayaynyayayynynya  
yyayaynyyayyanynnyyyayyanayaynannnyyayyayayny
```

- And produce the following output:

```
Section 1  
Student points: [20, 16, 17, 14, 11]  
Student grades: [100.0, 80.0, 85.0, 70.0, 55.0]
```

```
Section 2  
Student points: [16, 19, 14, 14, 8]  
Student grades: [80.0, 95.0, 70.0, 70.0, 40.0]
```

```
Section 3  
Student points: [16, 15, 16, 18, 14]  
Student grades: [80.0, 75.0, 80.0, 90.0, 70.0]
```

- Students earn 3 points for each section attended up to 20.

# Section input file

<b>student</b>		12345	12345	12345	12345	12345	12345	12345	12345	12345	12345
<b>week</b>		1	2	3	4	5	6	7	8	9	
<b>section</b>	1	yynyyynayayynyyayayanyyayaynayayyanayyyanayayna									
<b>section</b>	2	ayyanyyyyayanaayyanayyyananayayaynyayayynynya									
<b>section</b>	3	yyayaynyyayyanynnyyyayyanayaynannnyyayyayayny									

- Each line represents a section.
- A line consists of 9 weeks' worth of data.
  - Each week has 5 characters because there are 5 students.
- Within each week, each character represents one student.
  - a means the student was absent (+0 points)
  - n means they attended but didn't do the problems (+1 points)
  - y means they attended and did the problems (+3 points)

# Output to files

- Open a file in write or append mode
  - 'w' - write mode – replaces everything in the file
  - 'a' – append mode – adds to the bottom of the file preserving what is already in it

```
name = open("filename", "w")    # write  
name = open("filename", "a")    # append
```

# Output to files

- `name.write(str)` – writes the given string to the file
- `name.close()` – closes file once writing is done

Example:

```
out = open("output.txt", "w")
out.write("Hello, world!\n")
out.write("How are you?")
out.close()

text = open("output.txt").read() # Hello, world!\nHow are you?
```