

Announcements

- ▶ Homework
 - ▶ Homework 5 due tomorrow night
 - ▶ I'm still working through the HW4 scoring
 - ▶ Make sure you are filling out the commented metadata at the top of files please
- ▶ I do still plan on getting the grade reports out over the weekend. Sorry, its been a bit of a crazy week...
- ▶ Polling: `rembold-class.ddns.net`

Review Question

Given the function and function call below, what would be printed?

- A) "My Name Is ABE"
- B) "MyNameIsABE"
- C) "My Name Is Abe"
- D) "mYnamEiSabE"

```
def rec(s):  
    if len(s) <= 1:  
        return s.upper()  
    elif s[-2] == ' ':  
        return rec(s[:-2]) + s[-1].upper()  
    else:  
        return rec(s[:-1]) + s[-1]  
  
print(rec("My name is ABE"))
```

Solution: "MyNameIsABE"

Graphical Recursion

Example

It was mentioned that recursion can show up in graphical applications as well. Let's try to reproduce the Sierpinski triangle in arcade!

Writing Example

Example

Suppose I wanted to try my hand at some ASCII art and fill a text file with an oscillating vertical sine wave comprised of o's. How could I generate and write it to file? How could I break the problem up into smaller bits? How could I make my solution more general and flexible?

Reading Example

Example

I want to make a name generator which combines the first and last portions of the first names of random students in this class. I have all the first names in a text file called `Class.txt`. How could I do it? How can I break the problem up into smaller, more manageable chunks?

Appending (Writing More) Example

Example

Often, you want to add some text to the end of an existing document. A case I had come up this summer was recording the temperature and humidity from a sensor. We don't have the sensor here, but let's construct how that would work with user input for the temperature and humidity.