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- Week 1: Python Basics
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3. Simple Algorithms (TIME: 41:06)
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Problem Set 2
Problem Set due Feb 2, 2017 15:30 PST

- Week 3: Structured

Exercise: power recur

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Exercise: power recur

5.0 points possible (graded)

ESTIMATED TIME TO COMPLETE: 7 minutes

In Problem 1, we computed an exponential by iteratively executing successive multiplications. We can use the same idea, but in a recursive function.

Write a function `recurPower(base, exp)` which computes $base^{exp}$ by recursively calling itself to solve a smaller version of the same problem, and then multiplying the result by `base` to solve the initial problem.

This function should take in two values - `base` can be a float or an integer; `exp` will be an integer ≥ 0. It should return one numerical value. Your code must be recursive - use of the `**` operator or looping constructs is not allowed.

```
def recurPower(base, exp):
    '''
    base: int or float.
    exp: int >= 0

    returns: int or float, base^exp
    '''
    # Your code here

```

Press ESC then TAB or click outside of the code editor to exit

Unanswered

Note: In programming there are many ways to solve a problem. For your code to check correctly here, though, you must write your recursive function such that you make a recursive call directly to the function `recurPower`. Thank you for understanding.

Hints
What should your base case be?
Thinking about recursion

If you are getting the error stating that "Your code should be recursive" when you already make a call to `recurPower`: check your indention -- specifically, a common mistake is that your function and docstring do not start at the same indentation level.

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Exercise: power recur

Topic: Lecture 4 / Exercise: power recur

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