Assignment

- Due Friday tonight.
- Fall-back positions for partial credit:
  - Prints out list of points
  - Draws a polygon with the right number of sides
- Prof. Ludaescher will lecture Mon and Weds.
  Next assignment on the Web on Tues.
- Question on “helper” module.

Another wave

- Drawing two curves, do it with a function.
- …now I can change the dot radius in both curves by changing it in one place. It’s good not to duplicate information, or code.

Another function example

- Test to see if a string is all digits (no decimals, no commas…)
- Use the in Boolean test.

```python
def isInt1(s):
    valid = True
    for char in s:
        if not (char in "0123456789"): 
            valid = False
    return valid

reply = raw_input("Enter an integer: ")
if isInt1(reply): 
    print "That's an integer"
```

Is an element in a sequence?

- Character on left, string on right.
- True if char is a digit.

```python
"pig" in ["swine","porker","hog"]
```

String on left, list of strings on right. This expression has the Boolean value False.
Who sees what

- Variables defined in the main program ARE visible in the function. These are called **global variables**. Usually, they cannot be changed by functions.
- Variables defined in the function (including function arguments) are NOT visible in the main program. These are called **local variables**.

```
def is_all_digits(s):
    valid = True
    for char in s:
        if not (char in "0123456789"):
            valid = False
            return valid
reply = raw_input("Enter an integer: ")
if is_all_digits(reply):
    print "That's an integer"
```

Guideline

- Use different variable names in function and main program, EXCEPT when you intend, on purpose, for a function to use a global variable from the main program. Put a comment next to it so you know that that is what you are doing.
- Using the same variable names in both places can lead to endless confusion…

The "real" isInt

- Called like this:
  ```
  reply = raw_input("Enter an integer: ")
  if reply.isdigit():
      print "That's an integer."
  ```
- Special kind of function known as a **method**.
- If `isdigit()` was a normal function, it would be called like this:
  ```
  isdigit(reply)
  ```

Methods

- Structure of a method call:
  ```
  reply.isdigit()
  ```
- Second, third, etc. arguments (if they exist) go inside parenthesis as usual.

String cutting method

- Divide string based on some character:
  ```
  sentence = "How do you get the words?"
  words = sentence.split(" ")
  ```
- Produces a list of littler strings.
Very handy for…

- Reading data files
- This will be our next assignment.