Announcements

- HW3 due Monday at 11:59 pm

hint: index

my string [2:5]

my string [5:2:-1]
A better way: Sequential Search

```python
i = 0
found = False

while i < len(data) and not found:
    if data[i] == val:
        found = True
    else:
        i += 1

print found
```
In strings, "" == False, any other string is True

Another example: user input

```python
guests = []
name = raw_input('Enter a name, or hit enter to end: ')
while name != '
    guests.append(name)
    name = raw_input('Enter a name, or hit enter to end: ')
print 'You entered', len(guests), 'guests.'
```
Sanity check

What is the output of the following:

```python
val = 5
while (val <= 10):
    val += 1
    print(val)
print("done")
```

Output: 6 7 8 9 10 done
Caution: Infinite loops

Consider:

```python
while True:
    print('Hello')
```

Output? `Hello`
Infinite loops

The previous example looked silly. What about this?

```python
data = [1, 2, 3]
i = 0
found = False
while i < len(data) and not found:
    if data[i] == value:
        found = True
    next i += 1
```

Can be tricky. Think Euclid's algorithm - what if \( v \) never = 0?
Continue & Break
- 2 commands that only work in a loop
  Continue: end current iteration of loop & jump to next one
  Break: end current iteration and exit the loop

Can be overused 😞
Ex:

```python
while condition:
    if condition1:
        if condition2:
            do something
        else:
            do something else
    else:
        if condition3:
            continue
        else:
            another something
    if condition4:
        break
    else:
        do something
```
Back to seq. search

data = [8, 7, 3]
value = raw_input('Enter item to search for: ')
found = False

for item in data:
    if item == value:
        found = True
        break

print 'found'
Practice:

5.3: Write a program that prompts the user to enter numbers and prints the average. Program should keep taking input until the user enters 0. Output should be a float.

Ex:

```
Enter a number: 5
Enter a number: 17
Enter a number: 14
Enter a number: 0
```

The average is 12.0