<u>Announcements</u>

- HW due Saturday by midnight

Practice (also solution in book)

P2.17, p83: Write a script that prompts the user to enter their name in the form:

'firstName lastName'

Then output their name in the form: 'lastName, firstName'

P 2.31: Write a program that asks the user to enter 2 integers, separated by a space, & outputs the sum

Ex:

Enter 2 integers: 5 16

Their sum is 21.

For loops - Ch 4.1

Sometimes we need to repeat things
a set # of times, or for each
item in a sequence.

This is called _Iterating_ over a set.
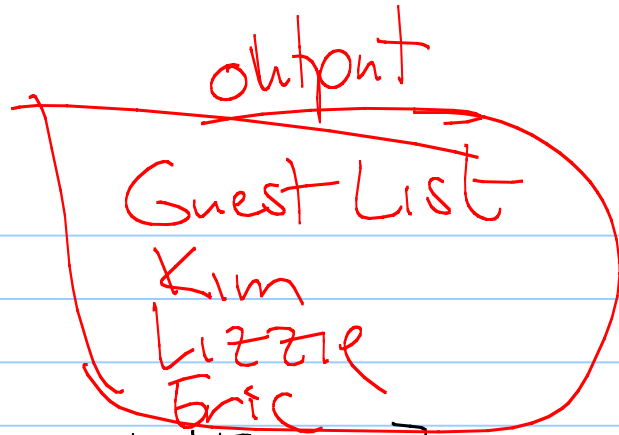
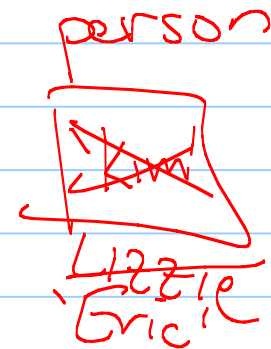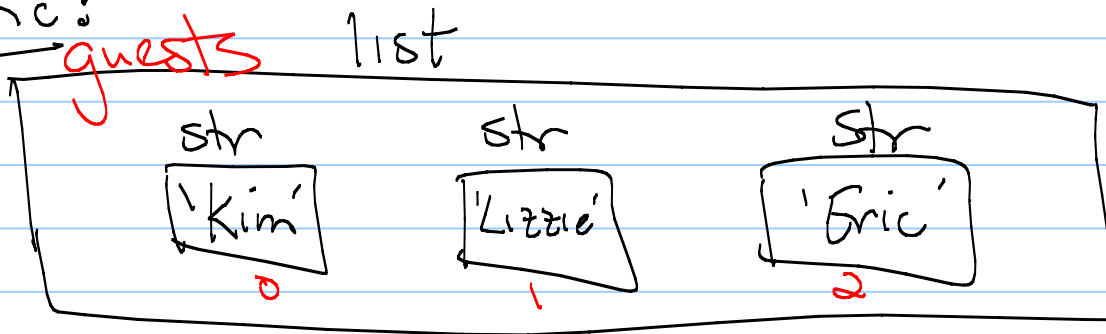## For loops :

for variable in sequence: ← list or tuple

$$\left[\begin{array}{l} \text{code to} \\ \text{execute} \end{array}\right.$$

For loops

Example:

```
guests = ['Kim', 'Lizzie', 'Eric']
print 'Guest List'
for person in guests:
    print person
```

output
Guest List
Kim
Lizzie
Eric

Schematic:

guests   list

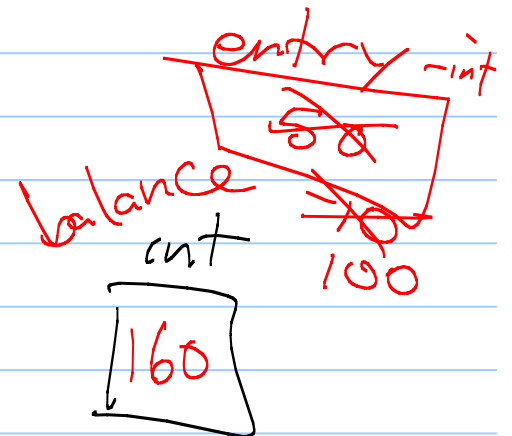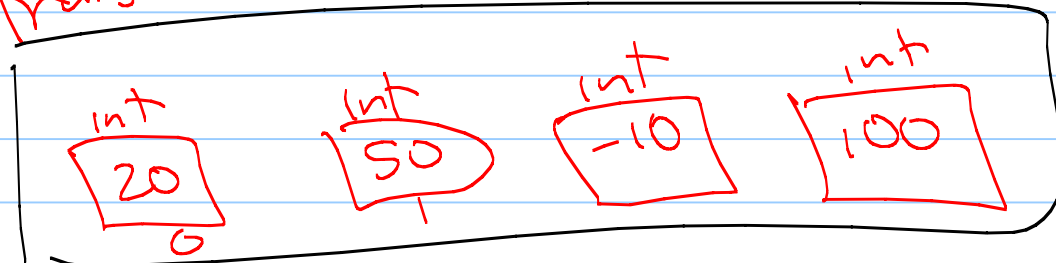| str	str	str
'Kim'	'Lizzie'	'Eric'
0	1	2

person

~~'Kim'~~
'Lizzie'
'Eric'

Another example:

```
transactions = [20, 50, -10, 100]
balance = 0

for entry in transactions:
    balance = balance + entry

print 'Your balance is', balance
```

transactions list

int	int	int	int
20	50	-10	100

entry -int

50
100

balance
cnt

160

Ex:

```
groceries = ['milk', 'eggs', 'cheese']
count = 1
for item in groceries:
    print str(count) + '. ' + item
    count = count + 1
```

Index-Based Loops

If you just need to repeat a
set # of times, use range:

Ex:
```
for value in range(10)
    animal.move(10, 0)
    sleep(.5)
```

} value isn't really important

animal.move(10,0)
sleep(.5)

range(10) = [0,1,2,3,...,9]

Example:

```
for count in range (10, 0, -1):
    print count
print 'Blastoff!'
```

Nested Loops

```
for chapter in ('1','2'):
    print 'Chapter' + chapter
→   for section in ('a','b','c'):
        print ' Section ' + chapter + section
print 'Appendix'
```

Output:
Chapter 1
    Section   1a
    Section   1b
    Section   1c
Chapter 2
    Section   2a

Practice 4.2

Given a string original, create a
new string dramatic that has
2 consecutive copies of each
letter from the original string.
Ex: 'argh' results in 'aarrgghh'

for letter in original