Outline Sept 21:

• Continue if/elif/else
• Nesting (lettercount.py)

Notes

• Lab 2 due Saturday night
• Office hours today 3-5pm (room 249)
• Ninja session tonight 7-9pm (room 256)
Research examples
Computational biology examples

```
# loop over the haplotypes
keep_haps = []
for i in range(N):
    hap = f.readline()
    if anc_der[i] == 'a': # if the haplotype is ancestral
        keep_haps.append(hap)

# loop through the files and add haplotypes
total_haps = []
for filename in file_lst:
    positions, keep_haps = parse_mbs_file(filename)
    total_haps = total_haps + keep_haps
```

Nesting

Accumulator pattern
String formatting
String formatting

• %i – int, use for integers (%d can also be used)

• %f – float, use %8.2f (for example) to make each float be 8 characters total (spaces used as padding on the left), rounded to 2 decimal places

• %s – string (same notation applies, but %8.2s will pad with spaces as well as truncate to 2 characters)
String formatting examples

```python
>>> string = "code"
>>> z = 35

>>> print("My %s is %d lines long." % (string, z))
My code is 35 lines long.

>>> p = 3.141592

>>> print("Pi is about %f" % p)
Pi is about 3.141592

>>> print("Pi is about %.2f" % p)
Pi is about 3.14

>>> print("Pi is about %.4f" % p)
Pi is about 3.1416

>>> num_lst = [234.575742, 14.46574, 8.231235, 19.4239823928398]
|>>> for num in num_lst:
|...        print("lining up numbers: %7.3f" % num)
|...
lining up numbers: 234.576
lining up numbers:  14.466
lining up numbers:  8.231
lining up numbers:  19.424```