Announcements

- Read for next time on the calendar page
  - RQ will be available soon
- Assignment 2 due today
  - Assignment 3 is out and due Sept 18
- APT Problem set 2 is due Tuesday, Sept 16
- New way to test APTs – via the web
  - Slower, but if can’t snarf, do it this way
- Finish lecture notes from last time first!
- Solve an APT

Lists

- A list is a collection of objects
  - scores = [99, 78, 91, 84]
  - allAboutMe = [“Mo”, 25, “934-1234”]
- Lists are mutable – use [num] to change a value
- Lists are indexed starting at 0, or -1 from the end
- Functions: max, min, len, sum
- Slice lists [:]
List Examples

```python
scores = [10, 8, 10, 9]
print scores
scores[2] = 5
print scores
print max(scores)
print len(scores)
print sum(scores)
print scores[1:]
print scores[1]
```

List before/after modification

![List modification diagram]

Processing List Items

- Process all the items in a list, one item at a time
- Format: `for variable in list:
  block`
- Example:
```python
sum = 0
nums = [6, 7, 3, 1, 2]
for value in nums:
  sum = sum + value
print sum
```

Copying vs aliasing

```python
names = ['jo', 'mo', 'bo']
club = names
team = names[:]
names[1] = 'flo'
print names
print club
print team
```
Making Decisions

Making Decisions tools

- Boolean values: True, False
- Boolean operators: and, or, not

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<thead>
<tr>
<th>X</th>
<th>Y</th>
<th>X and Y</th>
<th>X or Y</th>
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- Relational operators: <, <=, >, >=
- Equality operators: ==, !=
- Look at if examples: miscIf.py

Making Decisions in Python

if condition1:
    Block of code to do if condition is true
elif condition2:
    Block of code to do if condition1 false, condition2 is true
else:
    Block of code to do if other conditions false

- Can have many elifs, leave out elif, leave out else

More on lists

- range (1,11)
  - Generates a list of numbers from 1 to 10
- Example:

```python
for num in range(1,11):
    print num
```
Example

```python
answer = 0
for num in range(1, 10):
    if num % 3 == 0:
        answer = answer + num
    else:
        answer = answer + 1
```