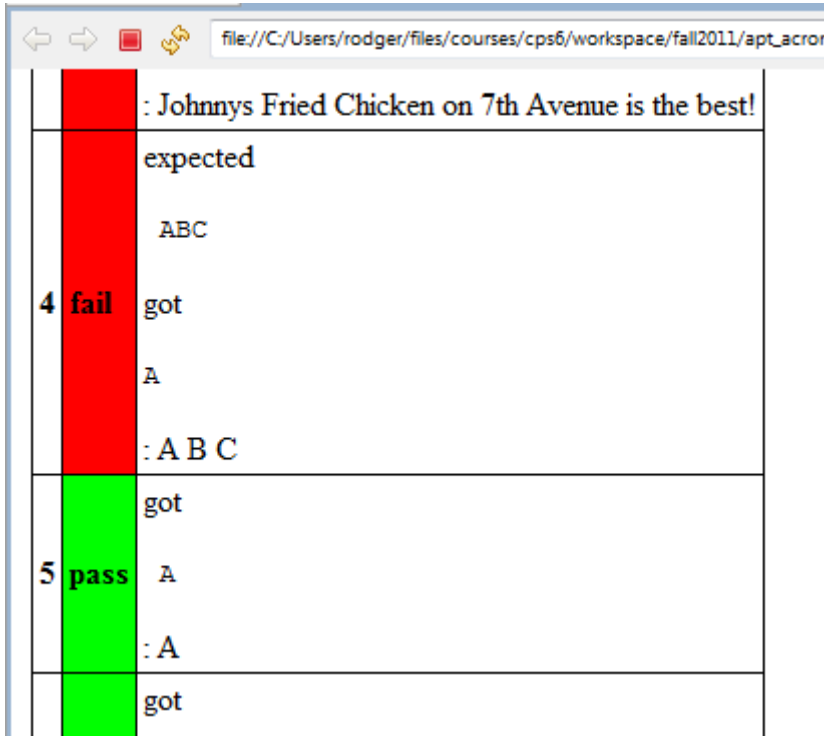
CompSci 6
Introduction to Computer Science



September 13, 2011

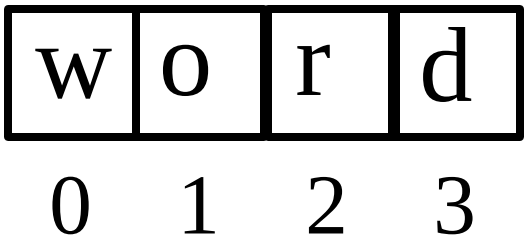
Prof. Rodger

Announcements

- Read for next time
  - Chapter 4 (pages 55-61) (note: we will work with images a different way)
  - Chapter 5
- Assignment 2 out - APTs
- Reading Quiz on Blackboard
  - Due before class next time

More on Strings

- Strings are indexed starting at 0
- Example: `'word'`



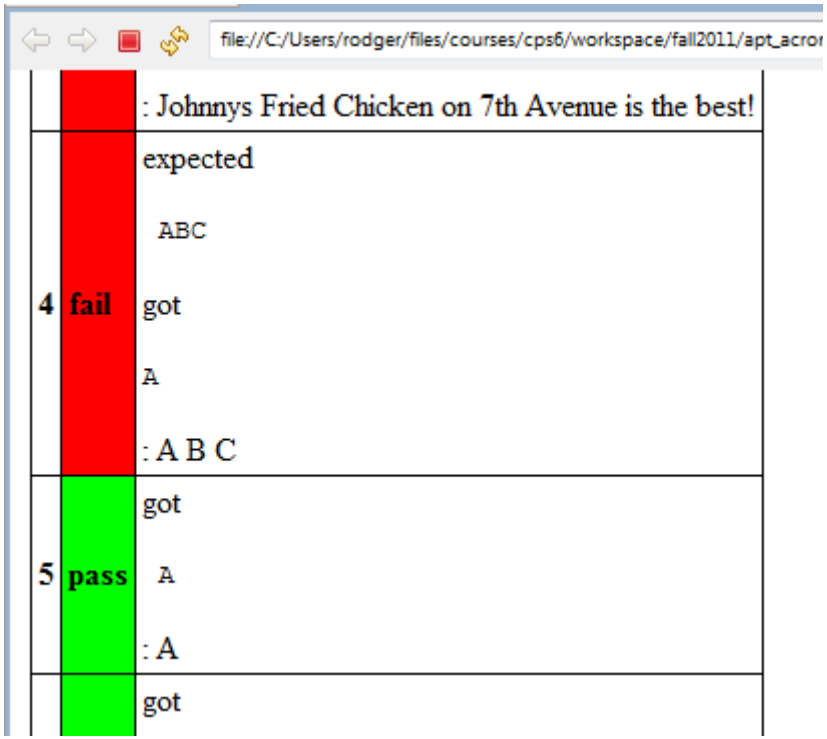
- Use [num] – to refer to a particular character in word
- Use [x:y] to refer to a slice of the string starting at position x and up to but not including position y. Can leave out x or y.

Examples

```
phrase = "Duke Blue Devils"
print phrase[0]
print phrase[-3]
print phrase[1:3]
print phrase[5:10] + phrase[:4]
print
(phrase[phrase.find('ev'):]).upper()
```

APTs

- An APT is one a system we have setup to let you focus on solving one method.
- Similar to javaBat
- Snarf the APT, test it until you get all green
- Run in Eclipse
- Solve some APTs now



Lists

- A list is a collection of objects

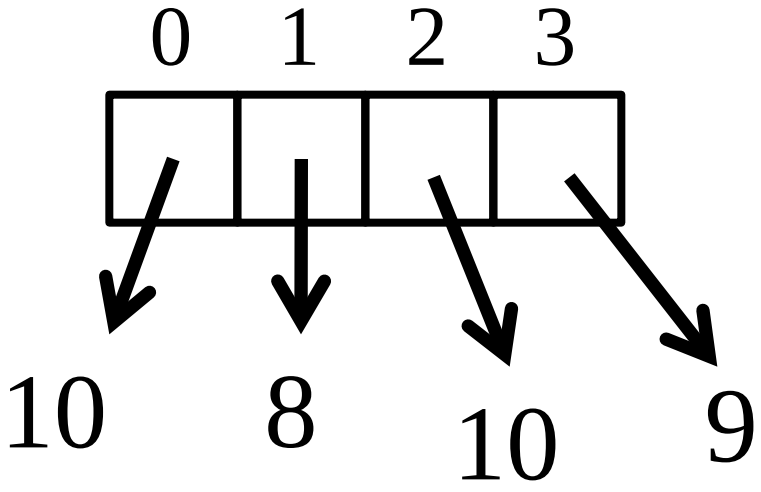
```
scores = [99, 78, 91, 84]
allAboutMe = [“Mo”,25, “934-1234”]
club=[‘Mo’,‘Jo’,‘Po’, ‘Flo’, ‘Bo’]
```

- 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 [:]

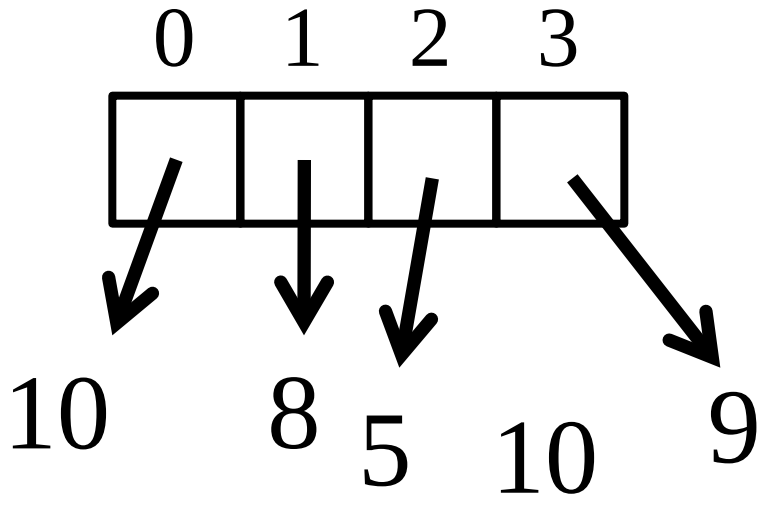
List Examples

```
scores = [10, 9, 10, 8]
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



score = [10,8,10,9]



score [2] = 5

Processing List Items

- Process all the items in a list, one item at a time
- Format: `for` variable `in` list:

  block
- Example:

```
sum = 0
nums = [6, 7, 3, 1, 2]
for value in nums:
    sum = sum + value
print sum
```

Copying vs aliasing

```
names = [‘jo’, ‘mo’, ‘bo’]
club = names
team = names[:]
names[1] = ‘flo’
print names
print club
print team
```