


CSI31 Introduction to Computer Programming I



Dr. Sharon Persinger
Fall 2018

Topics

- Simultaneous assignment
- Definite loops
- Example program: Future value

Swapping the values of two variables

In most languages, it is necessary to do this:

```
temp = x
```

```
x = y
```

```
y = temp
```

Think about variables as boxes.

You can do this in Python, but there is a Python way.

Python has simultaneous assignment

```
<var1>,<var2>= <exp1>,<exp2>
```

Can be used to swap values

```
x, y = y, x
```

All expressions on the right are evaluated first, then values are assigned.

Definite Loops

Program statements are executed in sequence, except when they aren't.

Use a loop to execute a sequence of statements multiple times.

A definite loop executes a sequence of statements a definite number of times. The number of executions is known when the loops starts.

Definite loops

- Counted loop:

```
    for k in range(n)
```

- for loop: `for <var> in <sequence>` is the general format of a for loop.
- Loop index var takes on each value in sequence
- Common sequence: `range(n)` for some n
- What is `range(n)`? `list(range(n))`

Futval.py

You have some money to invest. Call it amount. You decide to put it into a fixed rate investment, say a certificate of deposit (CD), for 10 years. The rate of return is fixed and called apr. The interest will be compounded. Write a program that will compute the value of the investment after 10 years.

