61A Lecture 3

Monday, January 26

Announcements
- Homework 1 is due Wednesday 1/28 @ 11:59pm
- Homework party on Tuesday 1/27 5-6:30pm in 2050 VLSB
- Please declare your partner on ok.cs61a.org
- Take-home Quiz 1 released Wednesday 1/28 is due Thursday 1/29 @ 11:59pm
- 3 points, similar in format to homework, but graded for correctness
- If you score 0/3, you will need to talk to the course staff or be dropped
- Open-computer: You can use the Python interpreter, watch course videos, etc.
- Closed-help: Please don’t talk to your classmates, search for answers, etc.
- Project 1 due Thursday 2/5 @ 11:59pm
- Midterm 1 on Monday 2/9 @ 7pm

Life Cycle of a User-Defined Function

Def statement: Name bound to that function in the current frame

Call expression: Operator & operands evaluated

Calling/Applying: A new frame is created!

What happens?

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Multiple Environments

An environment is a sequence of frames.

- The global frame alone
- A local, then the global frame

Every expression is evaluated in the context of an environment.

A name evaluates to the value bound to that name in the earliest frame of the current environment in which that name is found.
Names Have Different Meanings in Different Environments

- A call expression and the body of the function being called are evaluated in different environments.

Interactive Diagram

Every expression is evaluated in the context of an environment.

A name evaluates to the value bound to that name in the earliest frame of the current environment in which that name is found.

Conditional Statements

Compound statements:

- The first header determines a statement’s type.
- The header of a clause "controls" the suite that follows.

Def statements are compound statements.

Execution Rule for Conditional Statements:

- Each clause is considered in order.
- 1. Always starts with "if" clause.
- 2. Zero or more "elif" clauses.
- 3. Zero or one "else" clause, always at the end.

Syntax Tips:

1. Always starts with "if" clause.
2. Zero or more "elif" clauses.
3. Zero or one "else" clause, always at the end.

Boolean Contexts

False values in Python: False, 0, '', None

True values in Python: Anything else (True)

(Read Section 1.5.4)
While Statements

(Demo)

```
1. total = 0, 0
2. while i < 3:
3.   i = i + 1
4.   total = total + 1
```

Global frame:
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i = 3
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