CSCI 334:
Principles of Programming Languages

Lecture 21: Modeling variables

Instructor: Dan Barowy

Williams

Topics

Variables

Project activity

Announcements

1. My office hours moving to 12-1:30pm this Friday only.
2. Catherine's Friday hours moving to 6:30-7:30pm this week only.

Your to-dos

1. Lab 9, **due Sunday 5/1** (partner lab)
2. Reading response, **due Wednesday 5/3**.
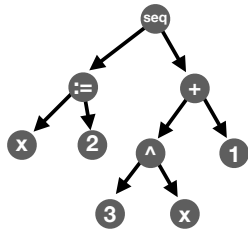
Quiz

Arpeggify

Variables

Variables

A **variable** is a named placeholder for a value in an expression. At runtime, when a value is **assigned** to a variable, that **variable name is bound to the value** within the variable's scope. When a variable is **used** in an expression, the bound value is **substituted** into the expression when the expression is evaluated.

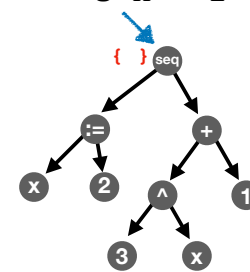We'll talk about **scope** in the next lecture.
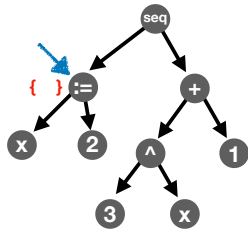
Example

```
x := 2
3^x + 1
```


Example
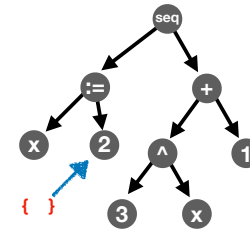
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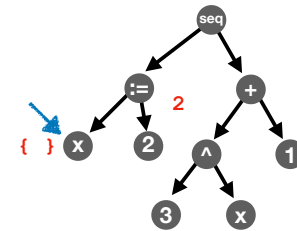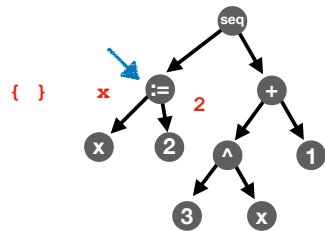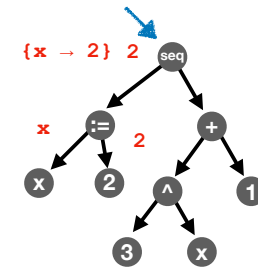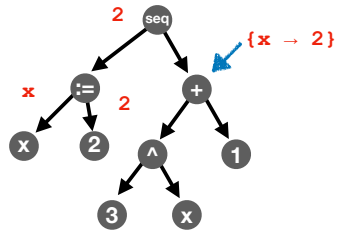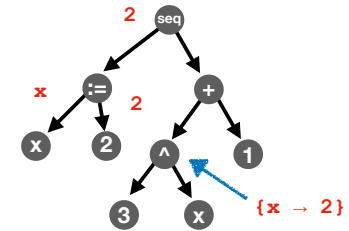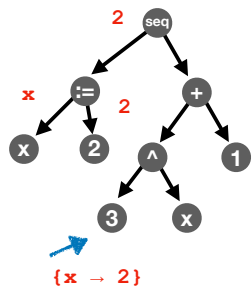
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{x → 2} 2

x

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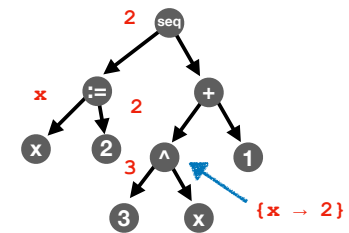# Example

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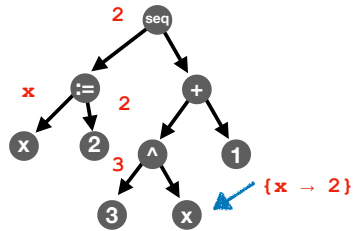# Example

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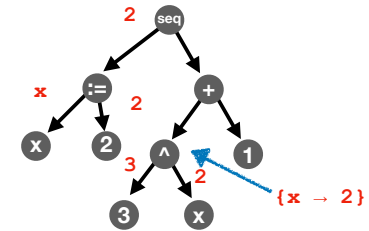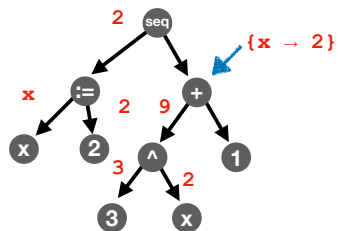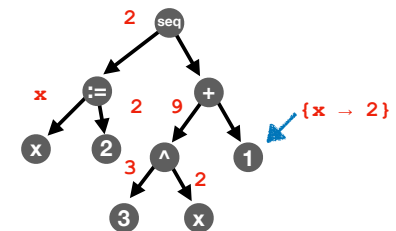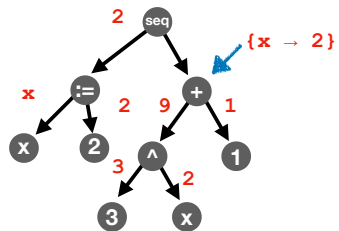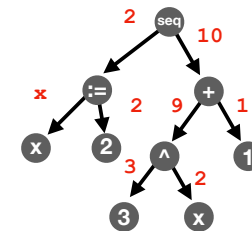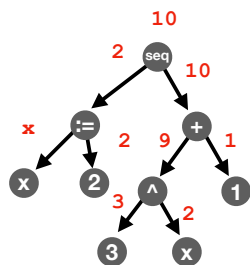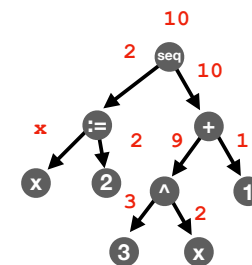x := 2
3^x + 1

Cool, huh?

Every CS major should know this.

Project Activity

Project Activity

Find a partner **who is not your project partner**.

I will prompt you when to move to the next step in the procedure below.

Each of you will do the following in turn:

1. (~3 minutes) **Explain your project** to your partner. Be sure to discuss at least one primitive and one combining form, and be sure to describe the form of the input and the form of the output.
2. (~3 minutes) Your partner **explains your project back to you**. Take note which concepts they have trouble explaining back to you.
3. **Swap roles** and **go to step 1**.

Recap & Next Class

Today:

Variables

Next class:

Testing