CSE 115
Introduction to Computer Science I
Announcement

Lab practice / Entry Ticket system

Link on main page of website
Road map

▶ Review ◀

Variables

Demo: variables in Python
Ground rules

Change is inevitable

Programming fundamentals

Identification

Correct not complete

Knowledge and skill will grow
Expressions

An expression is a part of a program that has a value.

Expression

Simple

literals (integer, real, Boolean, string), eg 17

Compound

one or more expressions AND one operator, eg 17 + 3
Road map

Review

▶ Variables ◀

Demo: variables in Python
Variables

A variable is a name that has been assigned a value.
Variables

Assignment

A value can be assigned to a variable.

Assignment is done using a statement.
Expressions vs Statements

Recall: an expression has a value, produced by evaluation.

A statement does not have a value.

A statement has an effect, produced by execution.
Variables

Assignment statement

name = expression

The value of the expression is assigned to the variable whose name appears on the left of the assignment operator.
Variables

Name

begins with a letter or underscore

can contain letters, underscore, or digits
Variables

= 

assignment operator

(not equals!)
Variables

Assignment statement examples

\[ x = 3 \]

\[ y = 3 + 5 \]
Expressions

Variables can be simple expressions

\[ x = 3 \]
\[ y = x + 5 \]

The variable \( x \) is used as an expression!
Expressions

Variables

The value of a variable expression is the value stored in the variable.
Expressions

Variables can be simple expressions

The expression $x+5$ adds the values of two smaller expressions, $x$ and $5$.

The value of $x$ is what was assigned to it, namely 3.

The sum of 3 and 5 is 8.

$y = x + 5$
Expressions

Variables

\[ x = 3 \]

\[ y = x + 5 \]

The value of the variable expression \( x \) is 3.
Before we dive into our LiveCoding demo, let's try out some TopHat questions!
Road map

Review

Variables

▶ Demo: variables in Python ◀