Variables

Assignment Statement

Form:

```
«variable» = «expression»
```

How it's executed:

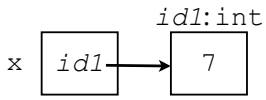
Evaluate the expression on the RHS to produce a value. This value has a memory address.

Store that memory address in the variable on the LHS. (Create a new variable if it doesn't exist; otherwise just reuse the existing variable.)

Terminology

For this statement:

```
x = 7
```



We say:

"x gets 7"

"x refers to the value 7"

"x contains memory address id1"

"memory address id1 is stored in variable x"

Variable Names

Must start with a letter (or underscore).

Can include letters, digits, and underscores, but nothing else.

Case matters:

```
age = 11
aGe # Error!  This is not defined.
```

Valid: `_moo_cow`, `cep3`, `I_LIKE_TRASH`

Invalid: `49ers`, `@home`

Conventions for the format of names

thEre'S a GoOD rEasON wHy WorDs haVE A StaNDaRd caPITaLizAtIon sCHemE

Python convention: pothole_case

`CamelCase` is sometimes seen, but not for function and variable names

Rarely, single-letter names are capitalized: `L`, `X`, `Y`

When in doubt, use `lowercase_pothole`

Choosing good names

Python doesn't care about the *content* of the names, only their format. (It doesn't understand English.)

For example, these are equally fine names to Python: `xx3`, `class_average`, `fraggle`

We choose names that will be meaningful to the humans who will read our code.

Example: if you are adding something up, `total` is better than `x`.

You will be graded on the names you pick.