

ECS 10

1/11

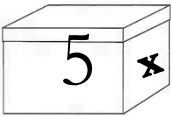
Announcements

- Second program assigned, due Thursday.
- Food Quiz!

ECS 10 Commenting Rules

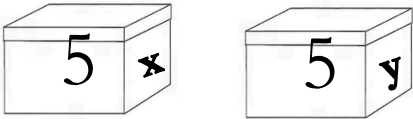
- When you first introduce a variable, add a comment
 - ▣ What data type is it (integer, string, floating point)?
 - ▣ What is it supposed to contain? What does the data mean?

Variables



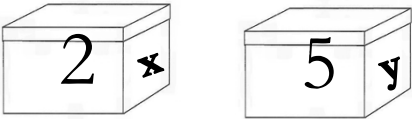
$x = 5$

Variables



$y = x$

Variables



$x = 2$

Getting user input

```
inStr = input("Enter celsius temperature: ")
```

- This is an assignment statement.
- inStr is a variable.
- input is a function
- The value of the expression:

```
input("Enter celsius temperature: ")
```

....will be whatever string the user types as input.

Checking for no input

- Use the if statement:

```
if name == "" :  
    print ("No name received.")
```

if condition:
do some statements

The empty string

- Characters are letters, numbers, punctuation...what you get when you hit a keyboard key.
- When the user just types the Enter key, input() produces a string, but it is a string containing no characters.
- It is called the empty string.
- The length of string "Daniel" is 6
- The length of the empty string "" is 0

The == operator

- The condition (for example, name == "") is testing for equal values.
- It is not an assignment statement!
- It uses the operator ==, which is different from the = in an assignment statement.

Not equal

```
if name != "" :  
    print (name+"-o-rino!")
```

- The operator != means "is not equal"
- The operator == means "is equal"

True and False

- These are called the Boolean data values.
- Boolean is one more data type.
- There is no "maybe" or "it depends"; True and False are the only possible Boolean values.

```
name == ""
```

- This is an expression that produces a Boolean value.

Block

- The indented statements under the if form a block. A block is always done together, or skipped together.

```
if name == "":
    print("No name received.")
    print("We will not proceed.")
```

Malformed if statements

- if name = "":
print("Welcome!")
- if name == "
print("Welcome!")
- if name == "":
print("Welcome!")

Malformed if statements

- if name = "":
print("Welcome!") Uses = instead of ==
- if name == "
print("Welcome!") Missing :
- if name == "":
print("Welcome!") No indentation

If ... else...

```
if name == "":
    print("No name received.")
else:
    print(name+"-o-rino!")
```

**Either the block under if is done, or the block under else.
One or the other is executed, NEVER BOTH.**

If ... else...

```
if name == "":
    print("No name received.")
else:
    print(name+"-o-rino!")
```

**The command else is NOT indented.
In IDLE, use backspace key to get back to left side.**

if ... elif...else

```
if name == 'Fido':
    species = 'dog'
elif name == 'Fluffy':
    species = 'cat'
else:
    species = 'human'
```

if...elif...else

- Only **one** of the blocks gets executed.
- Tries first condition; if that works, execute that block.
- If not, try second condition.
- If that fails too, the else gets executed.
- Can have as many elif's as you want.