Python Cheat Sheet

Python Program Structure

- A Python program consists of a number of statements (just like an essay consists of a number of sentences)
- A statement consists of a number of expressions, together with operators and keywords (just like a sentence consists of a number of words, together with punctuations)

Running Python Programs

- When you *run/execute* a Python program, each *statement* is *interpret*ed. In order to interpret an statement, each of its expressions are to be *evaluat*ed.
- All expressions evaluate to some value of different types. Possible types of values are (with examples of values of that type):
 - *Numbers*: 1, 2, 3, -1, 4.5, -3.1, ...
 - Strings: 'I like apples.', ...
 - Lists: [1,2,3,], [1, 'abc'], ...
 - Booleans: True, False
 - File objects: things returned by open(x)
 - Other objects that you do not (need to) know
- All of these values are themselves expressions (see next)

Expressions

• Basic Expressions:

- Numbers: 1, 2, 3, -1, 4.5, -3.1, ...
- Strings: 'I like apples.', ...
- Lists: [1,2,3,], [1, 'abc'], ...
- Booleans: True, False
- File objects: things returned by open(x)
- Other objects that you do not (need to) know
- Compound Expressions:
 - 1+2, 3 > 5, ('ab' == 'ab') and (x != 4), ...
- Variables:
 - Anything that consists of letters , digits and underscores (cannot start with a digit)
- Function application:
 - squre(3), max(x, 4), ...

Statements

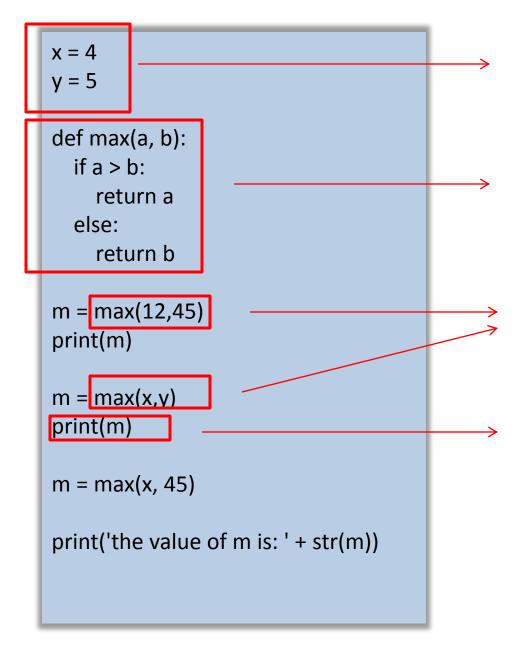
• Assignment statements

- a = 5, b = a + a, a = a + 1

- Function definition statements
 def cheerFor(team_name):
 print('Let's go ' + team_name + '!!!!!')
 return
- Conditional statements

if team == 'Brown Bears':
 cheerFor(team)
else:

boo(team)



assignment statements (statements with the = sign)

function definition statements (starts with def, then the body is like a mini program consisting of other statements)

function application. Notice how the values of the two arguments you provide get hooked to a and b within the function body.

Though function applications are expressions, they can appear here since they usually have 'side effects' when evaluated