

Arguments and return values

- Read [Python for Everybody](#) Chapter 4 Functions sections 4.1 to 4.3.
 - Define “argument”
 - Define “result”
- Visit this web page (<https://docs.python.org/2/library/functions.html>) that lists the built in functions in Python.
- Verify that the Python Version is 2.7.
- Ask, "How many built in functions are in Python 2.7?"
- Change the Python version to 3.4.1. How many built-in functions are in Python 3.4.1?
- Why do you think there are a different number of functions in Python 3.4.1 than in 2.7?

Compound Functions

- Open [Runestone Interactive Functions](#) page (<http://interactivepython.org/runestone/static/thinkcspy/Functions/functions.html>) and read about user defined functions in Python.
- Read through lines 1 and 2 that define the header and body of compound statements. Note the format of the compound statement used to define a function.
 - *What color is used to highlight the keyword def?*
 - *What punctuation mark ends the first(header) line?*
 - *How far is the body indented?*
 - *What color is the name of the function?*
 - *What word is used for the value in parenthesis?*

Function Definitions

- Run ActiveCode 1.
 - Change the number in line 15 and run the code to make a smaller square.
 - Change the number in line 15 and run the code to make a larger square.
- Run ActiveCode 2.
 - *What are the two line numbers used to call or invoke the function drawSquare?*
- Run ActiveCode 3.
 - Change the definition of drawMulticolorSquare to different colors.
 - *What line would you change to draw smaller multi-color squares?*

Return Values

- Some functions find and return values. Complete ActiveCode 5, 6 and 7.
- Change ActiveCode 7 so it prints the minimum values.

Line Numbers

- Run CodeLens 1.
 - *What line is executed next after line 6?*
 - *What line is executed next after line 3?*
 - *How do you think Python knew what line to go to after line 3?*
 - *What keyword is used to tell Python to return a value from the function named square?*
 - *What do you think would happen if you run the program after removing the return statement from line 3?*

Wrap Up

- Return to [Python for Everybody](#) Chapter 4 Functions Copy and paste the code from section 4.4 to Runestone ActiveCode 4.
- Run the code multiple times.
 - *What do you note about the results?*
 - *What is the name of the function used?*
 - *Is the function on the list of the built-in Python functions or is it defined in the program?*
 - *Where do you think the function is defined?*
- Add the number 1 as a parameter in the function call and run the program.
 - *Explain the error message.*
 - *Write one thing to remember about functions in your journal.*