Lab 1.0
The Nuts and Bolts

Z. Hutchinson
zachary.s.hutchinson@maine.edu

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Goals

The goal of this lab is to practice using Python 3. Specifically, you will practice:

- Operators, Variables and Assignment
- Input and output
- Casting and Types

Instructions

All work is due at the **end of your lab** and must be submitted to Brightspace in the proper place. Unless otherwise instructed, submissions must be python files (e.g. files that end with *.py*). Any other format, even if it is plain text, will **not** be graded. Messy or otherwise unreadable code will lose points. Lab submissions can be all in the same file, but please label with comments to which task code belongs. IMPORTANT: Any code that is commented out will not be graded.

RUN YOUR CODE TO MAKE SURE IT WORKS!!!

Task 1 - Input and output

Convert the following to Python3 code. Tools needed: =, *print()* and *input()*.

Ask the user for their last name and store in a variable *lname*.

Ask the user for their student id and store in a variable *id*.

Print *id* followed by *lname* separated by a semicolon all on the same line.

Task 2 - Operators and Assignment

Convert the following pseudo code into Python3 code. Tools: +, -, =, *%*, \, \\, ****, *print()*.

The variable *alpha* equals 5.

The variable *beta* equals *alpha* minus 1.25.

The variable *gamma* equals *alpha* modulo 2.

The variable *delta* equals *alpha* raised to the power of 4.

The variable *epsilon* equals 9 integer division 2.

The variable *alpha* equals *alpha* plus 1.

Print the values of *alpha*, *beta*, *gamma*, *delta* and *epsilon*.

Task 3 - Casting

Convert the following pseudo code into Python3 code. Tools: *str()*, *int()*, *float()*, and *bool()*.

Store the string "0" in a variable called *a_string*.

Cast *a_string* to an integer and store the result in a new variable *an_int*.

Cast *an_int* to a floating point number and store the result in a new variable *a_float*.

Cast *a_float* to a boolean value and store the result in a new variable *a_bool*.

Cast the string "kitten" to a boolean value and store in the variable *a_kitten*.

Print the five variables.

Task 4 - Types

Answer the following questions. Answers should be added to the python file as comments.

A What is the type (or datatype) of the variable *x* after the Python3 statement:
x = 1.0 + 1.

B What is the type (or datatype) of the variable *age* after the Python3 statement:
age = input("What is your age?").

C Scenario: you are reading Python3 code that you did not write and you find the following identifier buried in the code. Knowing nothing else, what can you guess about its type? Do you expect the value changes within the code?
NUMBER_OF_STUDENTS