

Your submission for this assignment **must include your full name and your nine-digit student number as a comment at the top of the source file you submit**. All source code files must be written using the **Python 3 programming language** and must run on the course's **official virtual machine**.

Do not compress your submission into a "zip" file.

Submissions that crash (i.e., terminate with an error) on execution will **receive a mark of 0**.

Officially, the Due Date for this Assignment is:

Friday, October 8th, 2021, at 11:59pm EST.

Late Submissions are **Accepted Without Penalty Until Sunday, October 10th, by 11:59pm EST**.

Submissions received after that will not be accepted and will receive a mark of 0.

For this assignment you will demonstrate that you can design, implement, and test expressions that use logical operators. You will do so by determining the expressions that correspond to a pair of simple circuit schematics that were assigned specifically to your student number, and then developing a program that takes command-line arguments and uses them to create the Boolean inputs needed to evaluate your expression.



In order to complete this task, you will need to:

- find your assigned circuit schematics on Brightspace¹
- know how to interpret the symbols on a circuit schematic²
- learn how to translate command-line characters into Boolean inputs for a circuit³
- evaluate your circuit (by hand) for several inputs (to design test cases for yourself)

Your submission for this assignment:

- must be a source code file with filename⁴ **'comp1405_f21_#####_assignment_03.py'**
- must NOT import anything other than 'sys' (which is required for command-line arguments)
- must create Boolean variables indicating if the command-line arguments hold zeros or ones⁵
- must create logical expressions that correspond precisely to each of the assigned circuits
- must NOT attempt to "simplify" the schematics (e.g., do not simplify "x and x" into simply "x")
- must print out both comma-separated results inside "triangle brackets" (e.g., <True, False>)
- can assume that the user will always enter 12 command-line arguments to be used as inputs⁶

¹ The "Tasks for Assignment 3.pdf" document on Brightspace contains each student's assigned circuit schematics.

² This was discussed during the second live lecture session (i.e., Wednesday/Thursday) that took place during Week 03.

³ `sys.argv[1]` will correspond to circuit input 'A', `sys.argv[2]` will correspond to circuit input 'B', etc.

⁴ You must replace the number signs in the filename with your official nine-digit student identification number.

⁵ The expression `sys.argv[1] == '1'` will result in True if the 'A' input is a '1', and False if the 'A' input is a '0'

⁶ e.g., `python3 source.py 0 0 1 1 1 1 1 1 1 1 1 1` indicates the 'A' and 'B' inputs are False and the rest are True