

# Refresher in Python

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# Stuff you will need

- ▶ We will be working in Google Colab for this workshop. This is where the content is, and where our python code will be executed.
  - ▶ You must have a Gmail account to access Google Colab
- ▶ All lesson material is on GitHub
  - ▶ [https://github.com/jahaltom/Python\\_Workshop](https://github.com/jahaltom/Python_Workshop)

jahaltom / Python\_Workshop  
forked from eswlab/Python\_Workshop

<> Code Pull requests Actions Projects Wiki Security Insights Settings

main 1 branch 0 tags Go to file Add file Code

This branch is 29 commits ahead of eswlab:main. Pull request Compare

jahaltom Add files via upload e428bfb now 50 commits

1_Boolean_Expressions.ipynb	Created using Colaboratory	2 hours ago
2_Conditionals_and_Loops.ipynb	Created using Colaboratory	1 hour ago
3_Functions.ipynb	Created using Colaboratory	8 minutes ago
4_Classes.ipynb	Created using Colaboratory	5 hours ago
COVID-19.fastq	Create COVID-19.fastq	yesterday
Refresher in Python.pptx	Add files via upload	now

Help people interested in this repository understand your project by adding a README. Add a README

Lessons →

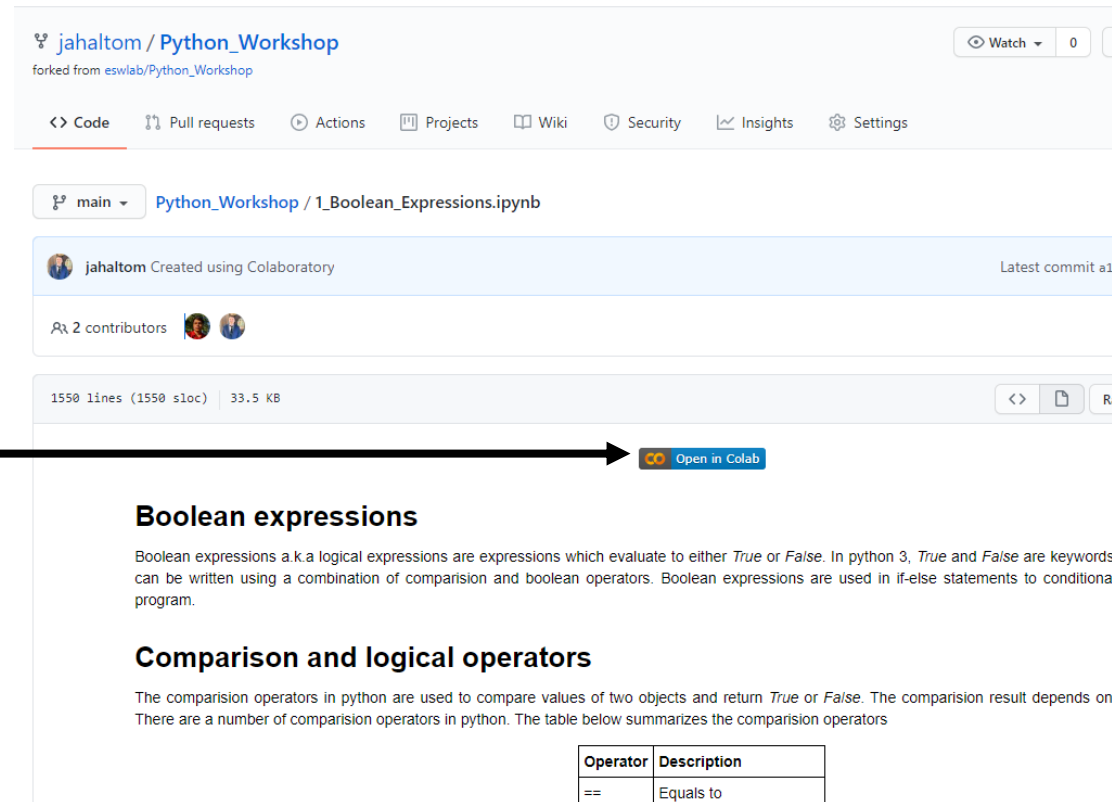
File needed for lessons 3-4 →

- ▶ Start by going to 1\_Boolean\_Expressions.ipynb

# Getting to the Colab

From GitHub, you can get into Colab using the directions below. Once you are in Colab, this becomes your copy and you are free to write in it. Any changes you make can be saved to your google drive.

Once you are in 1\_Boolean\_Expressions in GitHub, click “Open in Colab”.



The screenshot shows a GitHub repository page for 'jahaltom / Python\_Workshop'. The file '1\_Boolean\_Expressions.ipynb' is selected. Below the file name, it says 'Created using Colaboratory'. At the bottom of the file viewer, there is a button labeled 'Open in Colab'. An arrow points from the text 'Once you are in 1\_Boolean\_Expressions in GitHub, click “Open in Colab”.' to this button.

**Boolean expressions**

Boolean expressions a.k.a logical expressions are expressions which evaluate to either *True* or *False*. In python 3, *True* and *False* are keywords can be written using a combination of comparison and boolean operators. Boolean expressions are used in if-else statements to conditional program.

**Comparison and logical operators**

The comparison operators in python are used to compare values of two objects and return *True* or *False*. The comparison result depends on There are a number of comparison operators in python. The table below summarizes the comparison operators

Operator	Description
==	Equals to


# The Colab

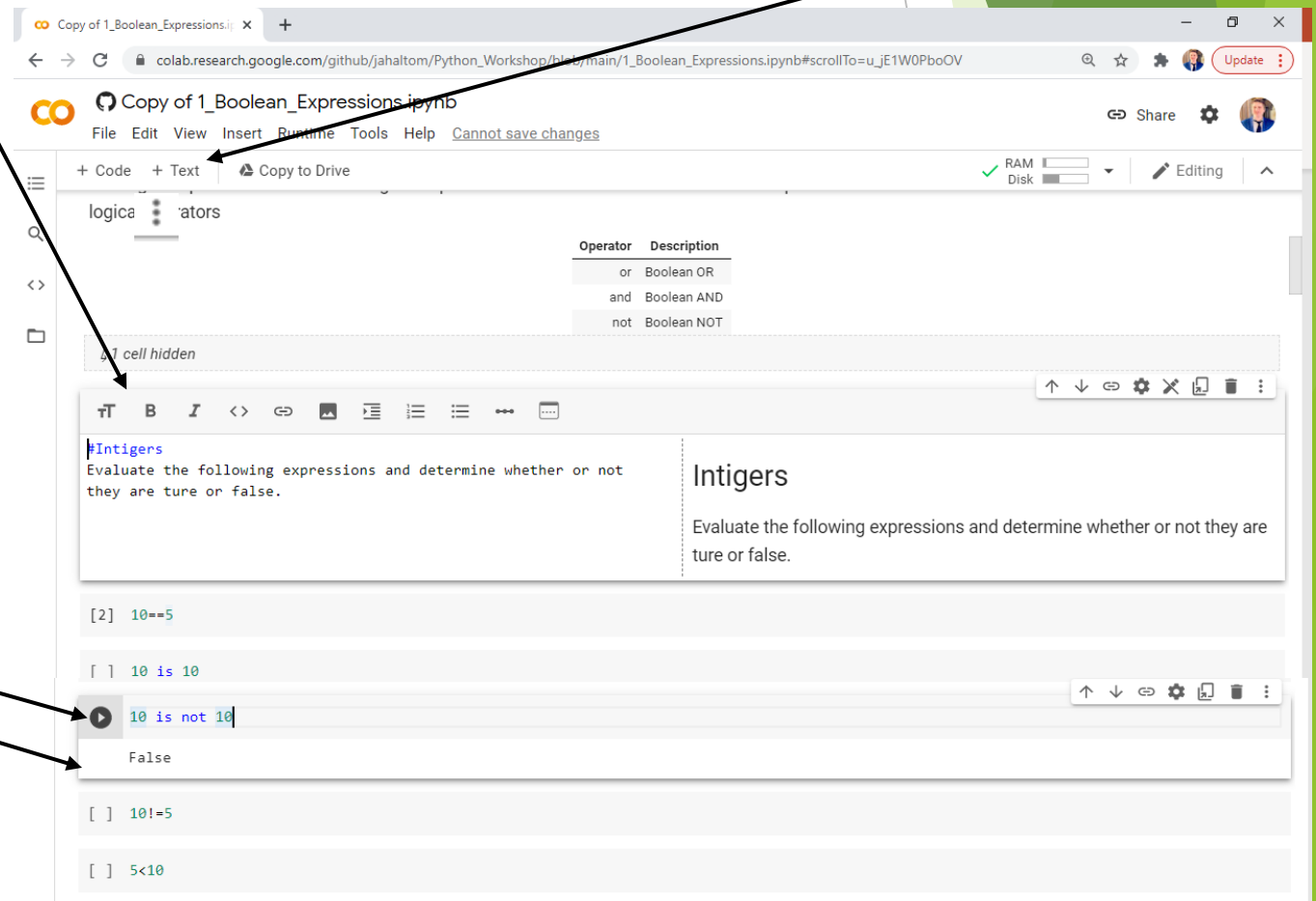
- **Colab:** is a platform that allows anybody to write and execute python code through their web browser. Colab consist of two parts, Text blocks and Code blocks.

- **Text** blocks are readable and writable to the user and in this case is used to explain the workshop contents to you. You could also use this to take notes. To edit the prewritten text, you must double click on the text block. You can also add a new text block by pressing the “+ Text” button in Colab.

- **Code** blocks are python code environments and are also readable and writable to the user as well as executable. To edit the prewritten code, you must double click on the code block. You can also add a new text block by pressing the “+ Code” button in Colab.

- To execute a code block, click the “play” button. The output of the code is then shown below.

- Once executed, you can clear the code output by pressing “Clear output” in  on the far right. You may also just click play again and the new output will override the old.



The screenshot shows the Google Colab web interface. At the top, there's a browser tab titled 'Copy of 1\_Boolean\_Expressions.ipynb' and a URL. Below the browser window, the Colab interface includes a menu bar (File, Edit, View, Insert, Runtime, Tools, Help) and a toolbar with buttons for '+ Code', '+ Text', and 'Copy to Drive'. A table of logical operators is visible: 

Operator	Description
or	Boolean OR
and	Boolean AND
not	Boolean NOT

. Below this, a code block is shown with the text: 

```
Integers
Evaluate the following expressions and determine whether or not they are true or false.
```

 The code block has a toolbar with icons for text formatting (bold, italic, code), linking, inserting images, tables, lists, and a 'play' button. The code `10 == 5` is entered, and the output `False` is displayed. Below this, the code `10 is 10` is entered, and the output `True` is displayed. The code `10 is not 10` is entered, and the output `False` is displayed. At the bottom, the code `10 != 5` and `5 < 10` are shown. Arrows from the text blocks point to the '+ Text' button, the code block, the 'play' button, and the 'Clear output' menu item.

# Technical Issues

- If you are unable to load GitHub, simply copy and paste the URL at the top of your web browser into <https://nbviewer.jupyter.org/>. This will take you to the Colab!!

