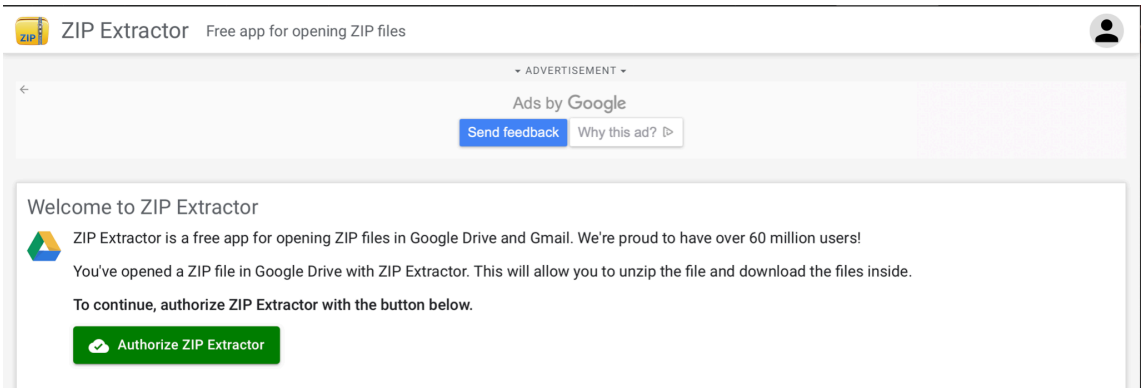
# Save the Whales Project

Google Colab Module User Guide

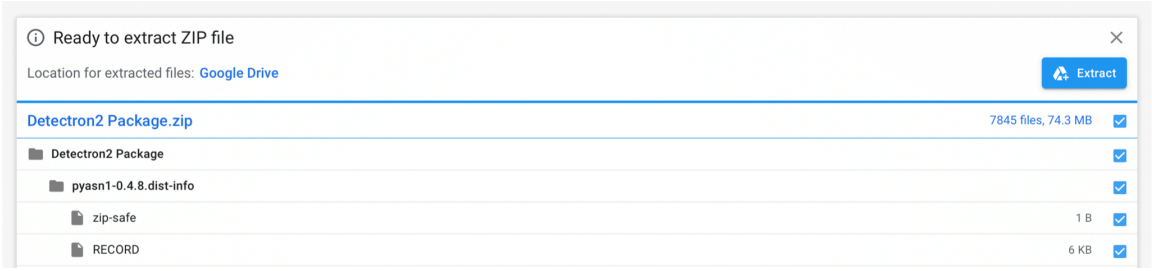
**STAGE 1: Download, Upload, and General Setup of your Google Drive** [DONE ONLY ONCE]

1. All of the files and folders necessary to use the Google Colab Module can be found on our Public Release Google Drive folder.
2. You will have to download 2 items:
    a. The Google Colab Notebook → Whale_Inference_Module.ipynb
    b. The Detectron2_Models.zip file
3. Navigate to your own Google Drive on your browser. We suggest that you create a new folder in your Google Drive to upload the 2 items mentioned above. We will refer to this as your base folder in this documentation and in the Google Colab Notebook.
4. [Additional Upload Instructions for Zipped versions] Once you have uploaded the zipped versions of the folders above into your base folder you will have to unzip them.
    a. Right click on the zipped folder and select Open With > ZIP Extractor
    b. This will open up in another tab the following page:




Click on Authorize ZIP Extractor and select your Google account

    c. Then on the next page click on Extract



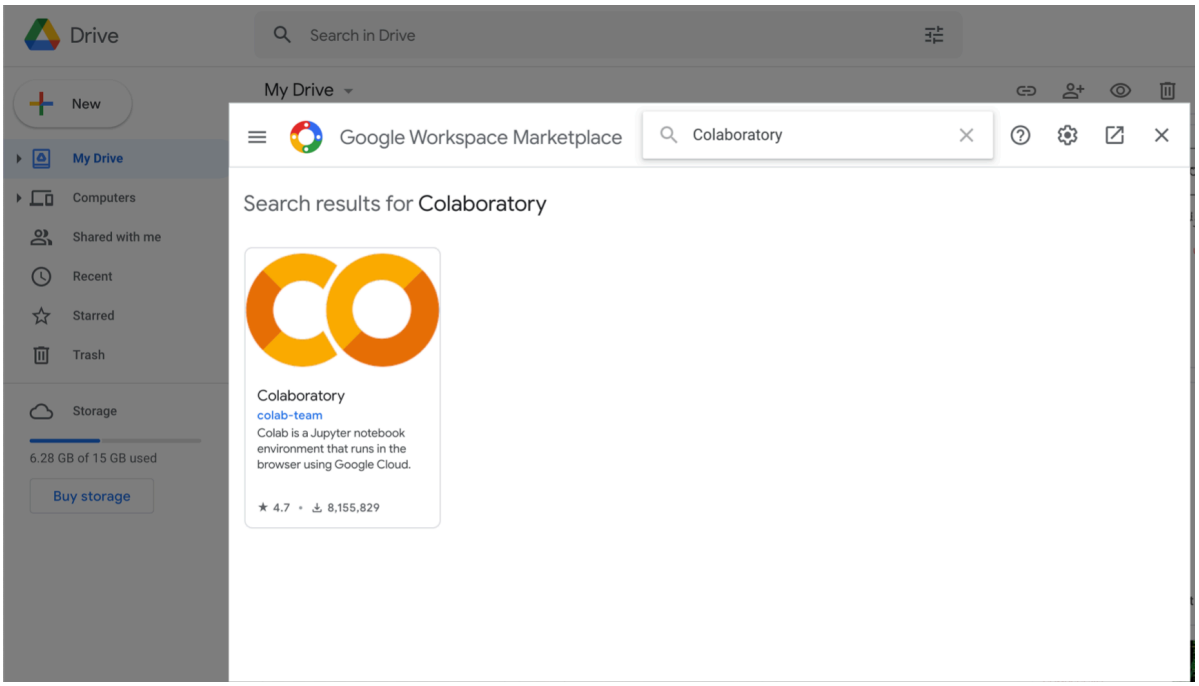

    d. Once unzipping is done you will be able to click on View Files, which will take you back to your base folder with them unzipped under Detectron2_Models.zip (Unzipped Files)

**STAGE 2: Setup Input Folder and Output Folder**

1. Create a folder in your Google Drive to upload the images you would like to process (inputs to our model). We suggest that you create this folder under your base folder but it is not required. Just make sure that your folder will only have images.
2. Upload the images from your local computer to this folder.
3. Create an output folder (this is where the outputs will be written to). Again, We suggest that you create this folder under your base folder but it is not required.

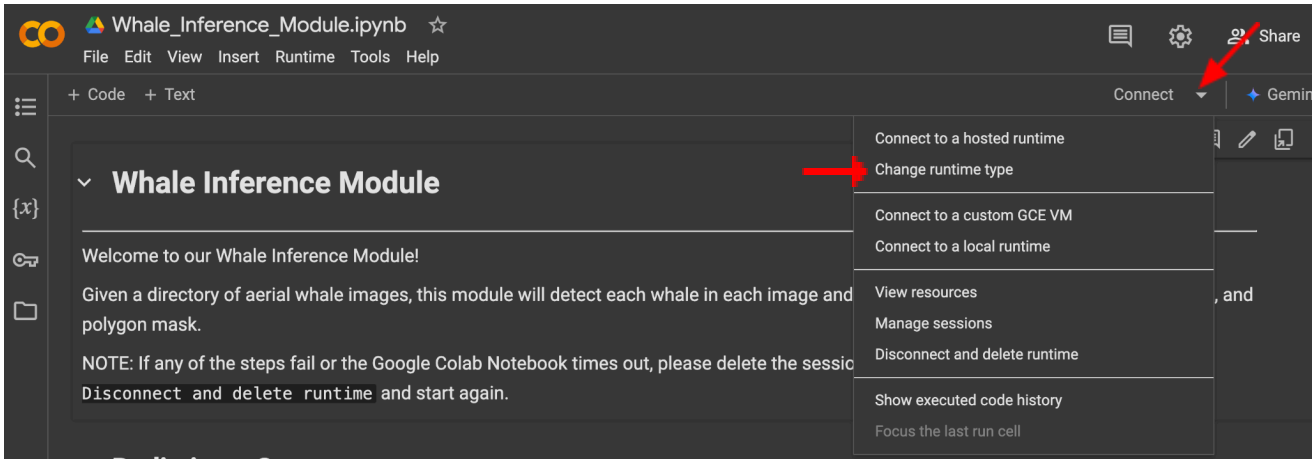
**STAGE 3: Using the Google Colab Module**

1. [DONE ONLY ONCE ] If it is the first time ever opening up the module on Google Colab, then you will need to install Google Colab.
    a. Right click on Whale_Inference_Module.ipynb and navigate to Open with > Connect more apps
    b. On the popup that appears search for “Colaboratory”, and click on the result to follow install instructions.

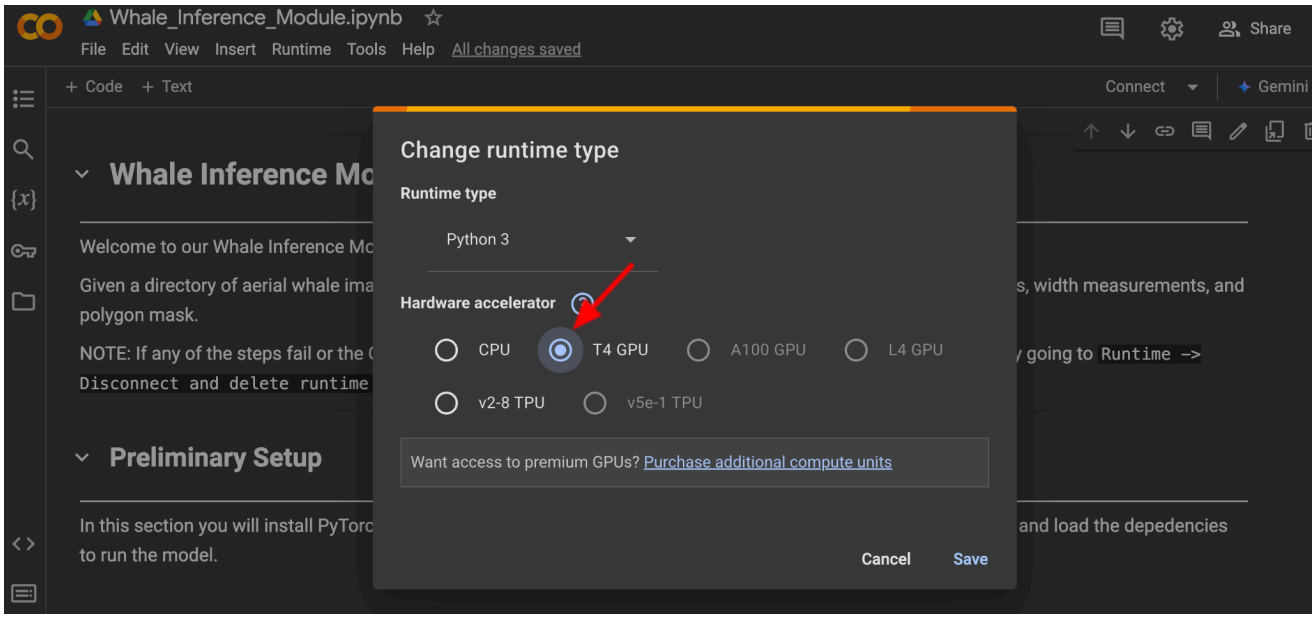



2. Double click on Whale_Inference_Module_May_2022.ipynb to open it (will automatically open in a separate tab)

3. [OPTIONAL CHECK] In order for the module to run properly, it must utilize the GPU resource. The module is already default to run with it, but it is good to double check.
    a. On the upper right corner click on the arrow next to Connect, and navigate to Change runtime type



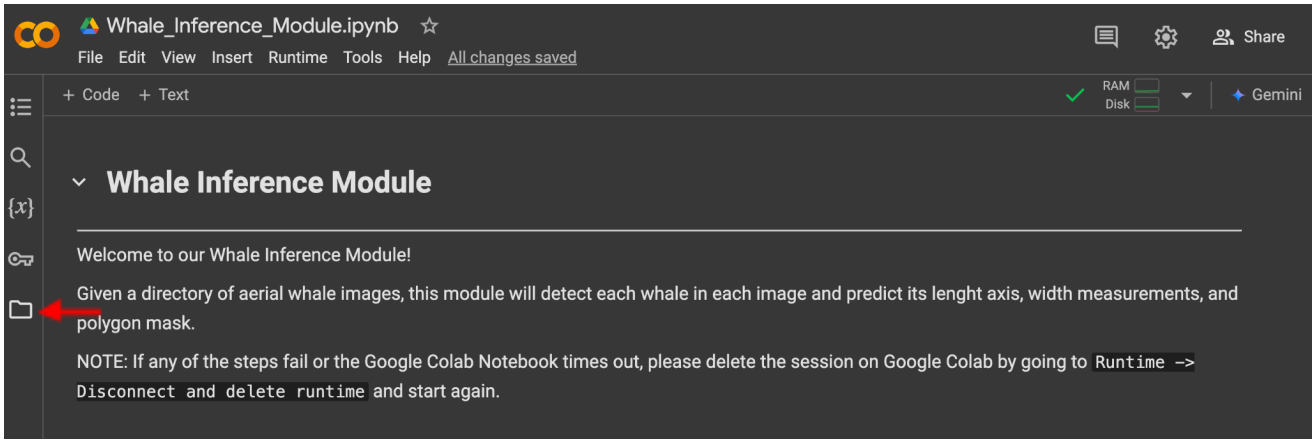

    b. Make sure that the Hardware accelerator is set to any of the GPU options.



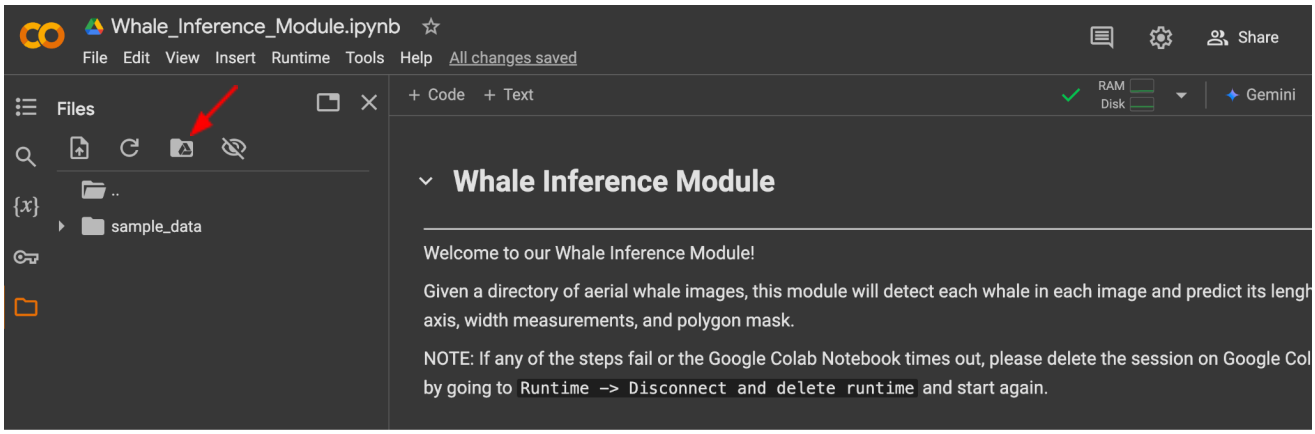

4. Now you may follow the instructions in the notebook to run inference on your images.

**General Notes for using Google Colab (with ease):**

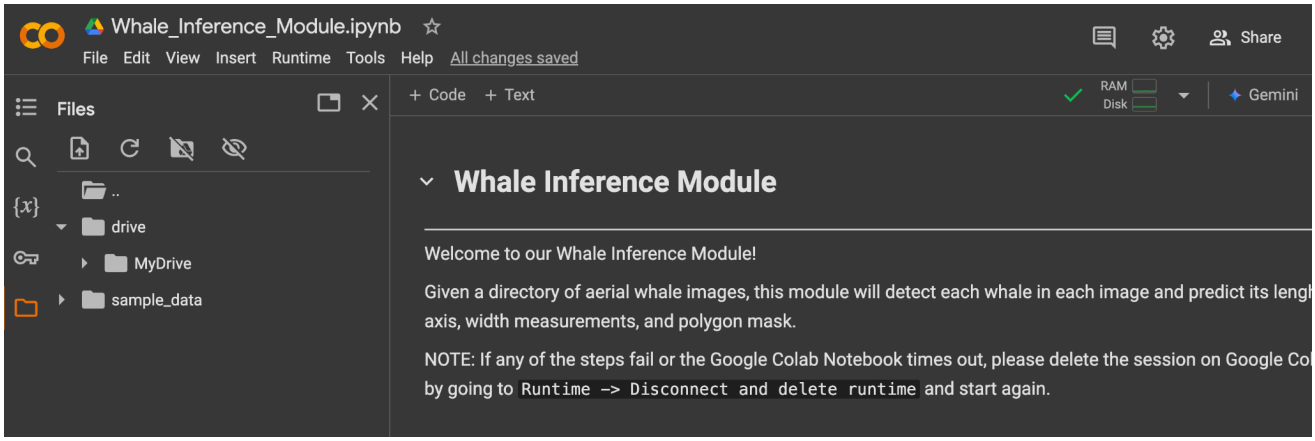
- The Files dialog will show you all of your files under your Google Drive once mounted



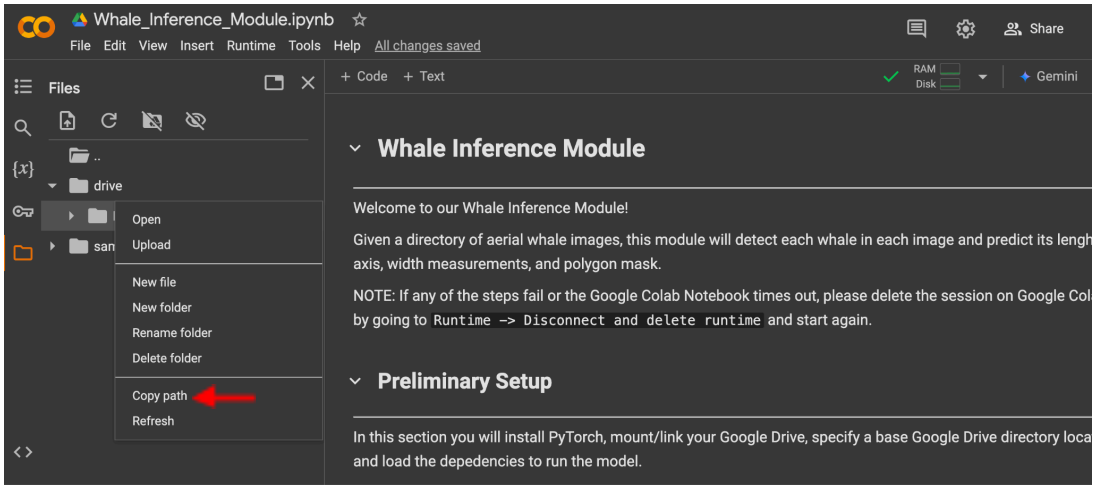

Mounting Drive:




Successful mount view:

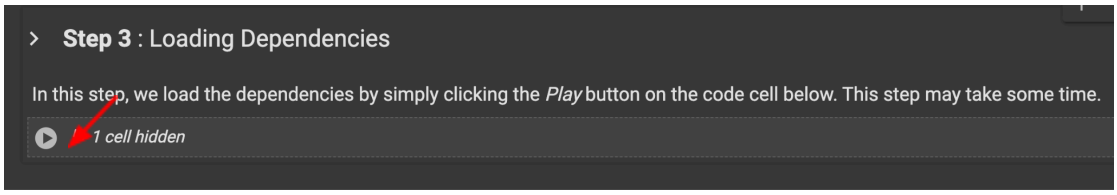


- For any form field that you have to fill with a folder location path, Colab provides an easy way to copy it. Under the Files dialog, next to any folder you will see 3 dots. If you click on the Copy path under it, it will copy its location path, and you can easily paste that on the form field (Just make sure to add "/" to the end of it).

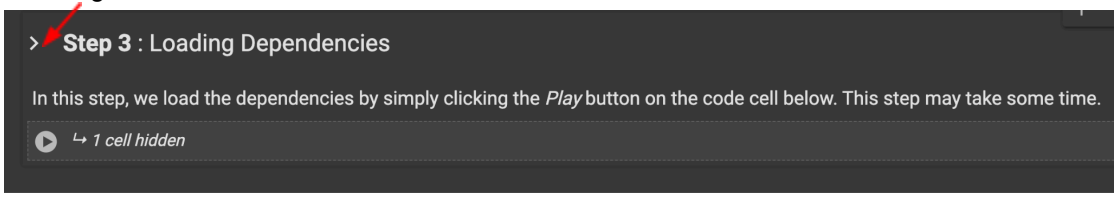



- In the module you may come across some hidden code cells. These were hidden by default to eliminate clutter from the user's perspective. You are welcome to unhide them by clicking on the arrow next to the section header they are under. In either hidden or unhidden cases, the instructions on running them are the same; Simply click on their *Play* button.

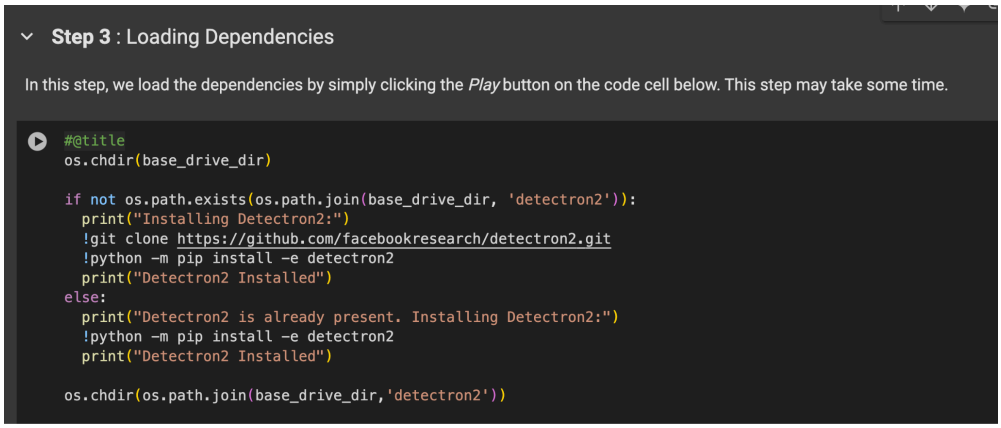
Hidden version of a code cell:



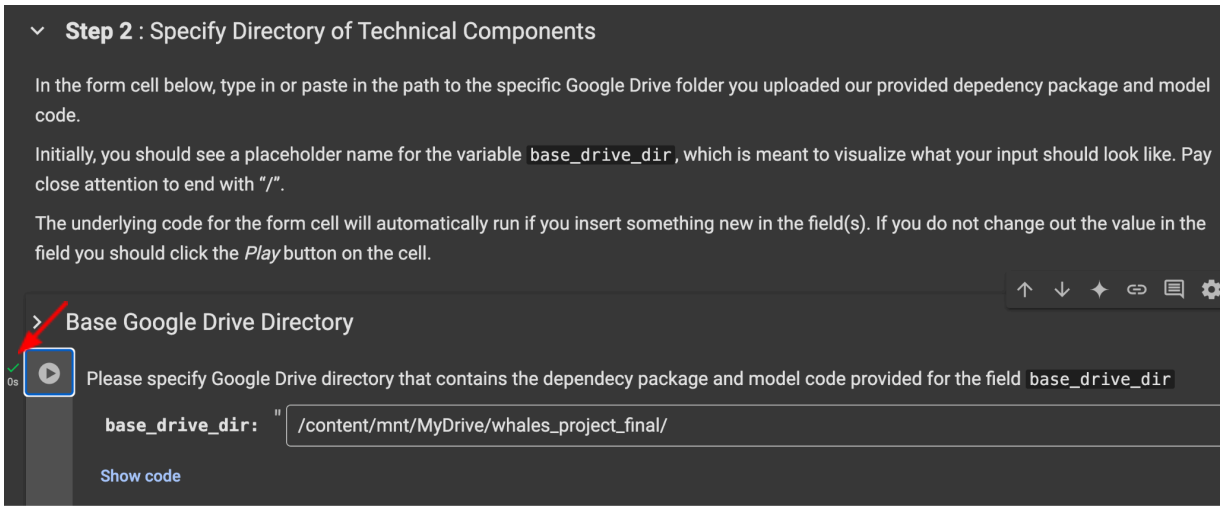

Unhiding the cell:



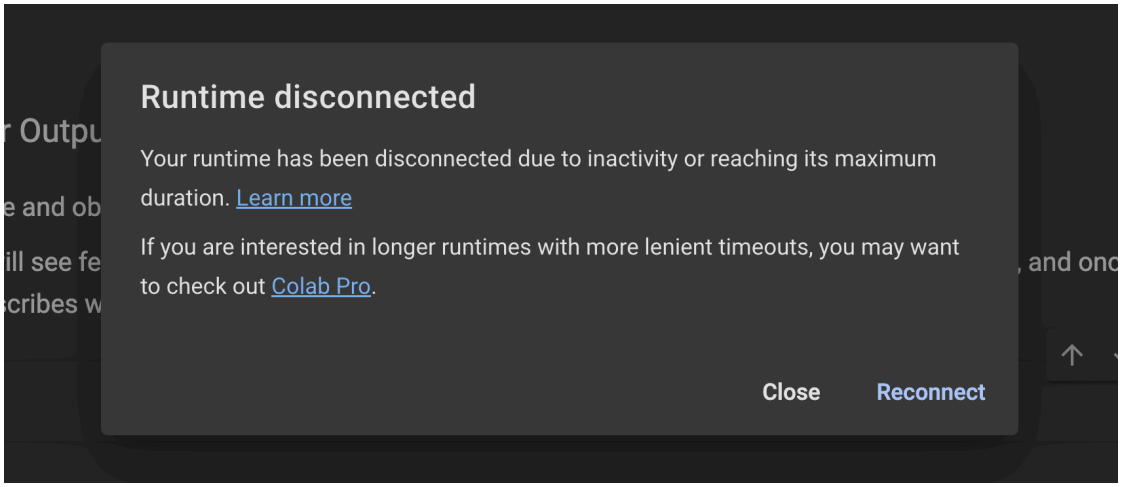

Unhidden version of a code cell:



- When a code cell is done running  and is successfully done then you will see a green check next to the cell.




- Please note that Google Colab has a runtime limit, and will time out if you reach that limit or if you have been inactive on the module. The module will be marked as inactive if your computer sleeps, but navigating to a different tab on your browser while the module runs will not mark it as inactive. So you can do other work on your computer as you have the module running inference on a batch of images. But do check back to it every couple of minutes to check if the module has completed running, as if it has stopped running and you are off the tab it is on, you run the risk of it being marked inactive.




If you do indeed get a timeout (as shown above), you'll have to reconnect and run all the cells from the top (except you likely won't have to mount your Drive again).

- After the first time using the module, and reopening it the next time, the module will have retained the previous form fields that you inserted. So you will not have to again enter the folder location paths if you still want to use those locations. (Just make sure that you click the *Play* button next to them if that's the case. As the form fields are set to auto run only if you insert something new)