Southern New Hampshire University

MAT 243 Jupyter Notebook in Codio Tutorial

Contents

How do I get into the Jupyter Notebook for my assignment?

While in your course, look for an activity with **Jupyter Notebook** in the title. In MAT 243, these are in the activities list for each module, right before the discussion activity. There are also links to the project notebooks in the **Assignment Information** section of the course. Below is a screenshot of Module One in a sample course. Your course may have different activity titles, descriptions, or assignment numbers. Click on the link to open your Jupyter Notebook in a new window.
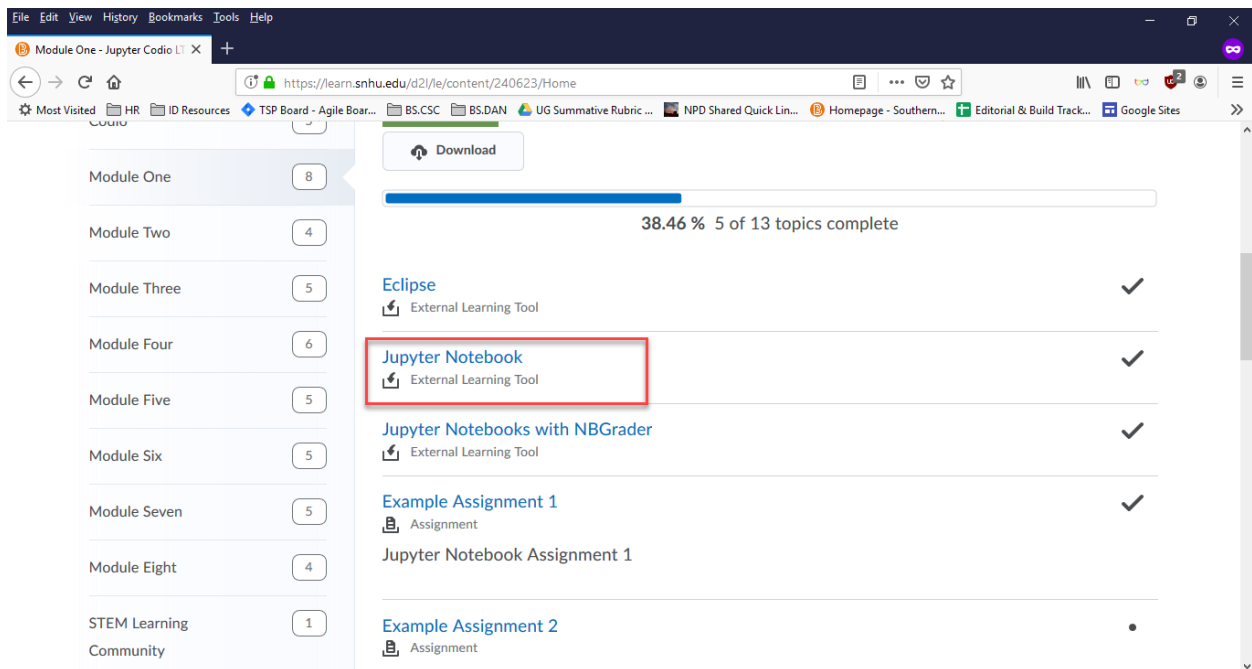
Clicking the link will launch **Codio**, where you will have access to your Jupyter Notebook files. When Codio loads, you will see two panels. On the left side (outlined in a yellow box in the screenshot) is the **filetree**. This will show you a list of files for that assignment. In this example, the assignment notebook is titled "Sample Notebook.ipynb." Your file will be named after your activity. For example, if you are

working in Project One, your file will be called "Project One." In the main screen (outlined in a red box), you will see the Jupyter Notebook containing your assignment. This is where you will do your work.
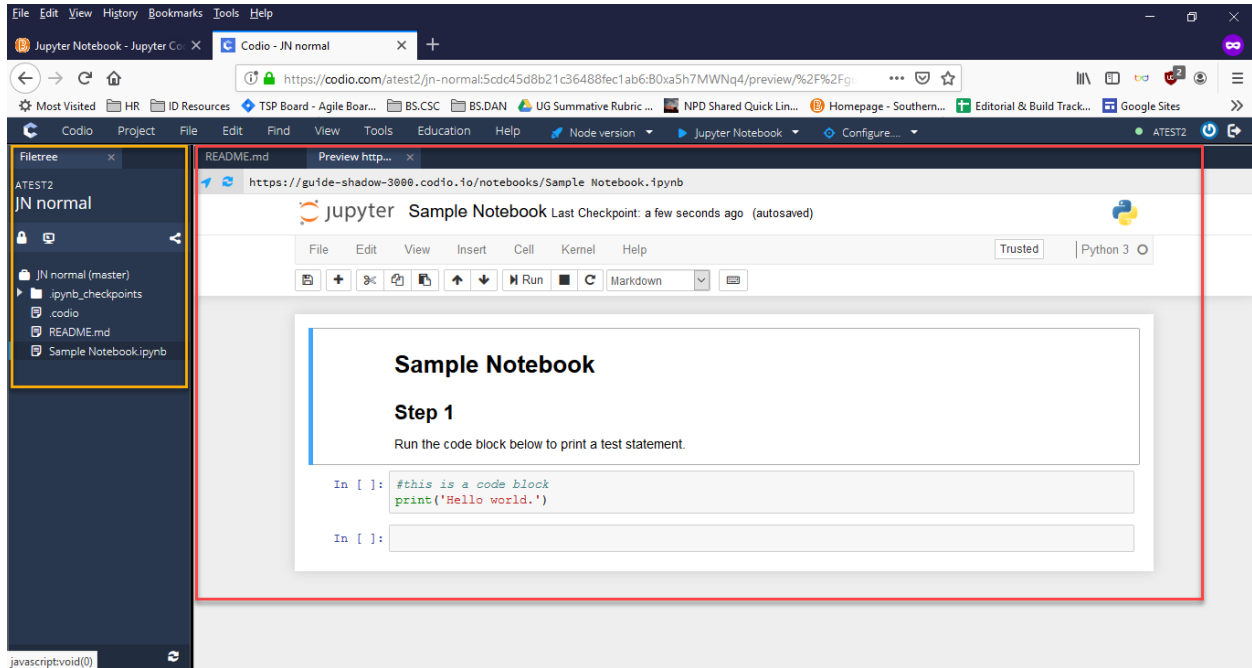

Congratulations! You have opened up your notebook and viewed your assignment. The following sections will walk you through completing, saving, and downloading your work. There are also tips on what to do if you make mistakes and need to "reset" your code and how to create your own notebooks for extra practice.

How do I complete my work?

Once in your Jupyter Notebook, you will see two types of text: instructions and code blocks. In MAT 243, the instruction blocks will walk you through every step of the assignment. Read the instruction blocks, then complete and run the code block according to the instructions. In the sample below, you can see instructions outlined in a red box. The next block is the "code block." Notice that the font is a little different, and you can see the Python code with a comment and a print statement.

Your notebook will have different instructions and code blocks, but they will look very similar.
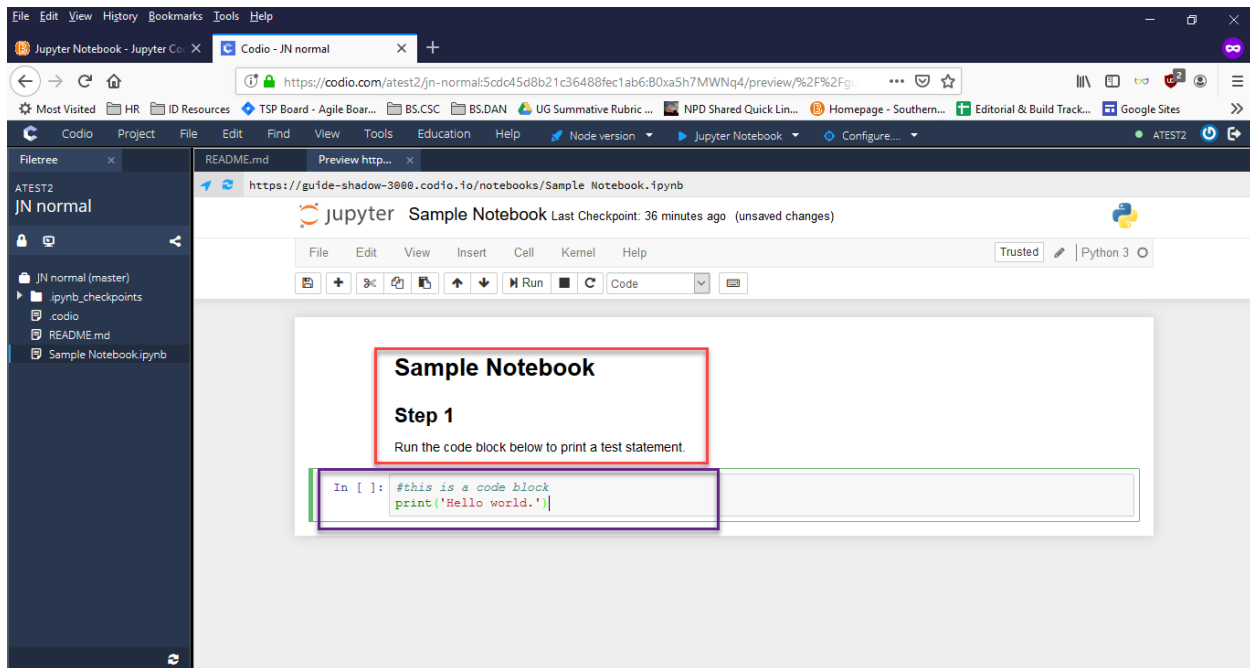
Depending on the instructions, you may or may not need to modify the starter code in the code block. To modify the code, click anywhere on the code block to activate it. An activated code block will be outlined in green. When the code block is active, you can click on any statement and edit it or add statements of your own to the block. Be sure to follow the instructions.
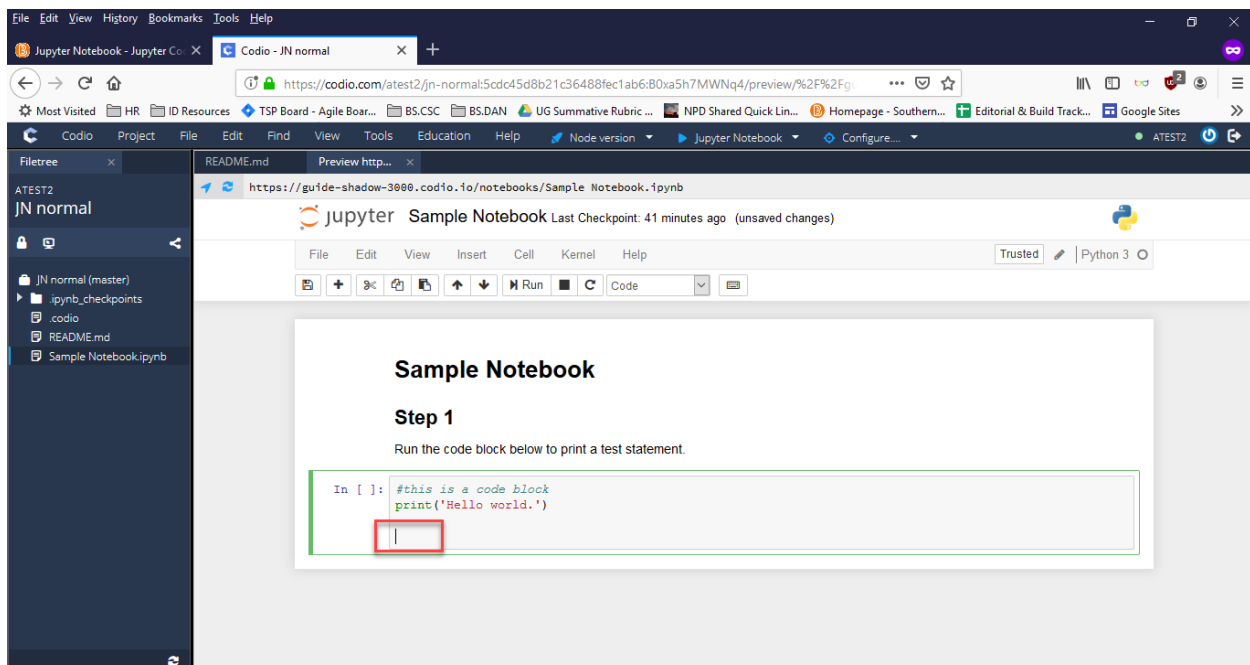
When you have finished following the instructions and are ready to "run" your code block, make sure that the code block is still selected. Then click the **Run** button from the Jupyter Notebook menu bar. It may take a second for the code to run.
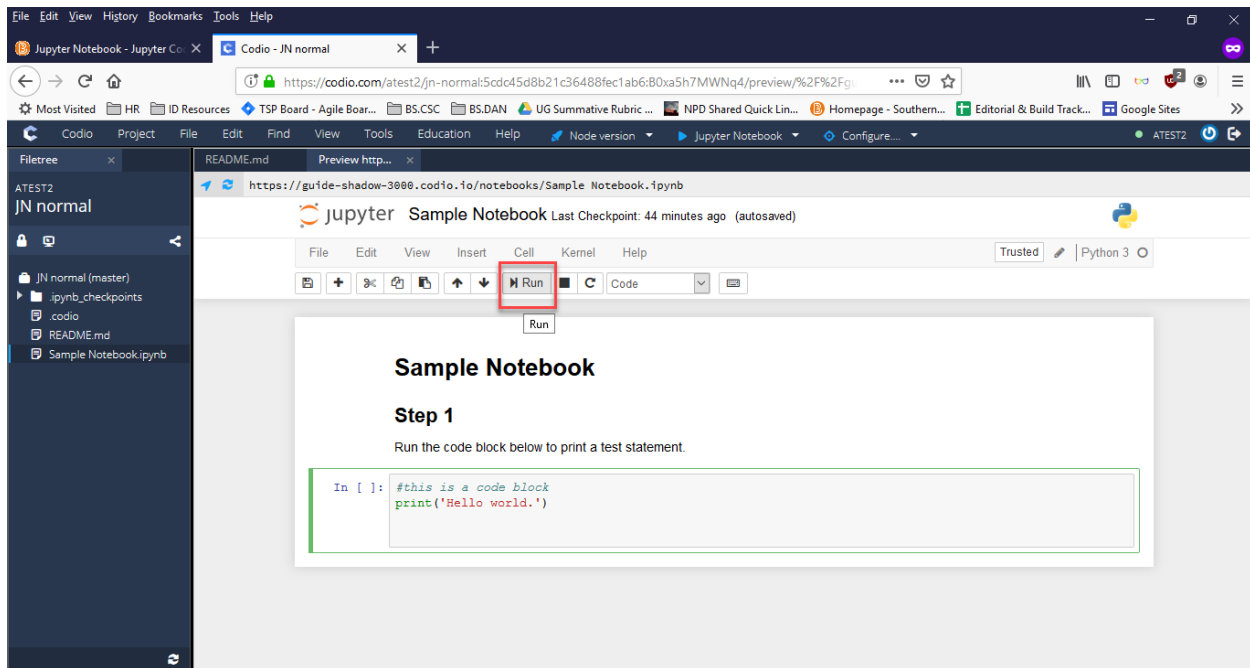
Once the code block has run, you should see the output underneath the block. In this case, the output was a simple statement: "Hello world." If there are more instructions, follow them and continuing running the code blocks until you complete the assignment.
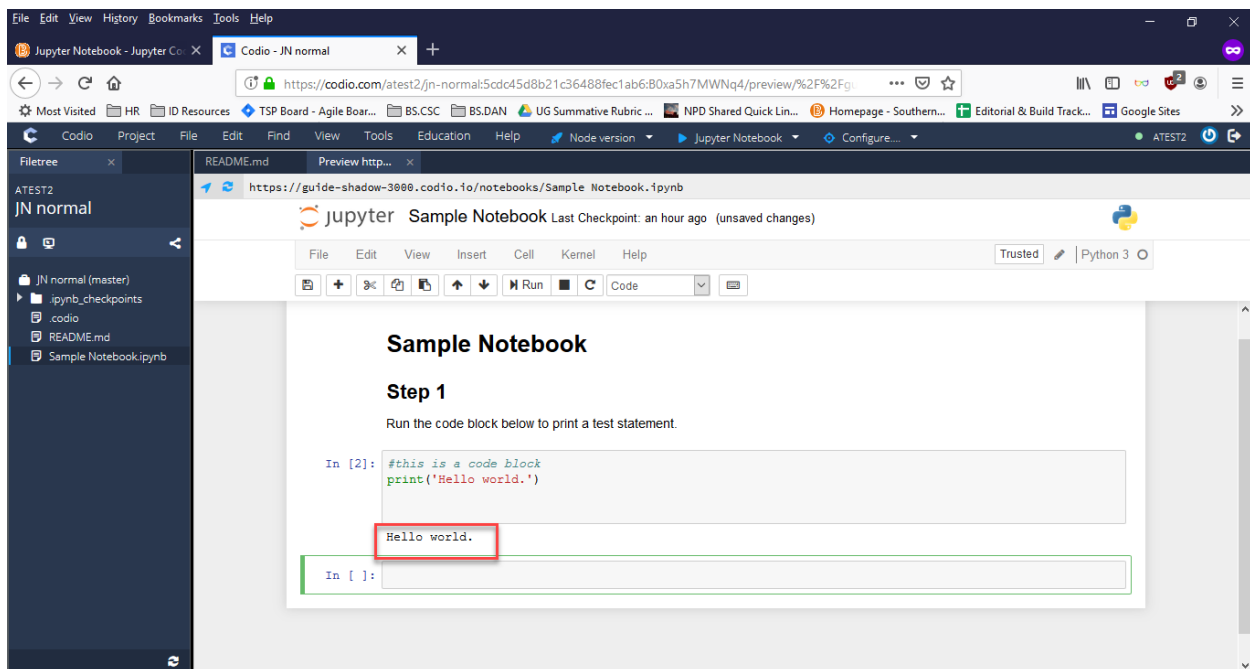

How do I save my work?

You can save your work in a couple of different ways. First, you can press **Ctrl + S** to save your work. Or you can choose **File**, then **Save and Checkpoint** from the Jupyter Notebook menu bar.
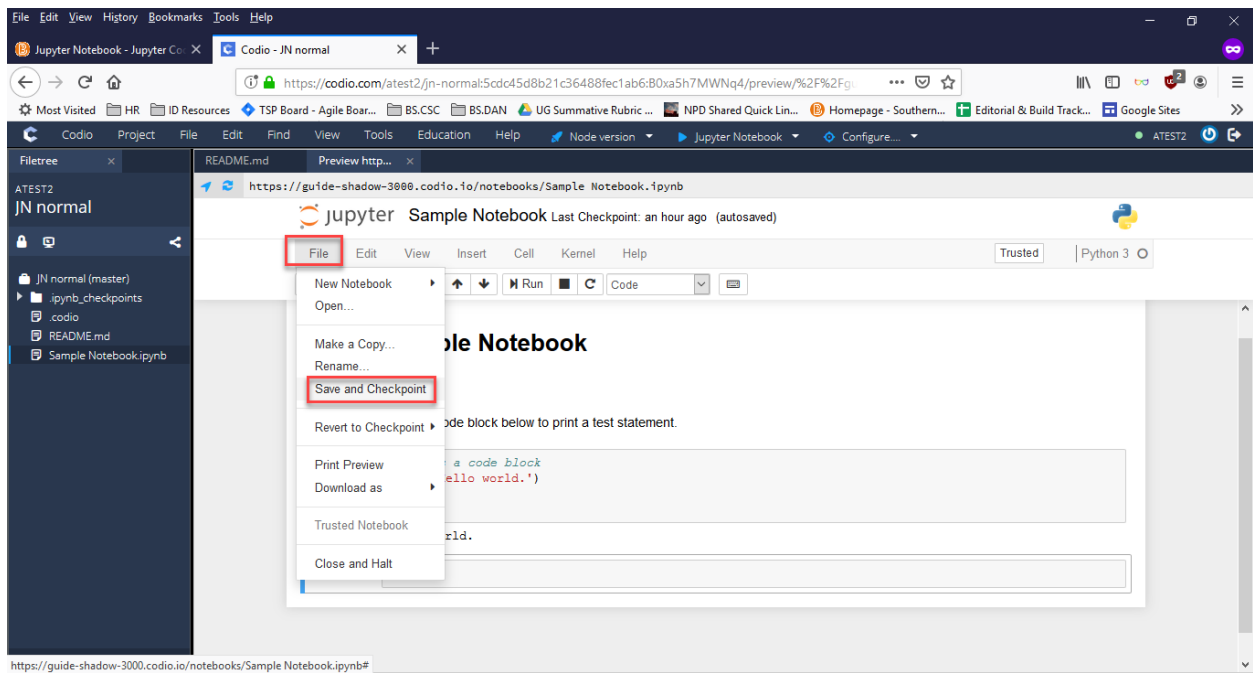
When you have saved your file, check the "Last Checkpoint" time at the top of the Jupyter window, next to the notebook title. If your save was successful, it should say "a few seconds ago." Be sure to save your work as you go.
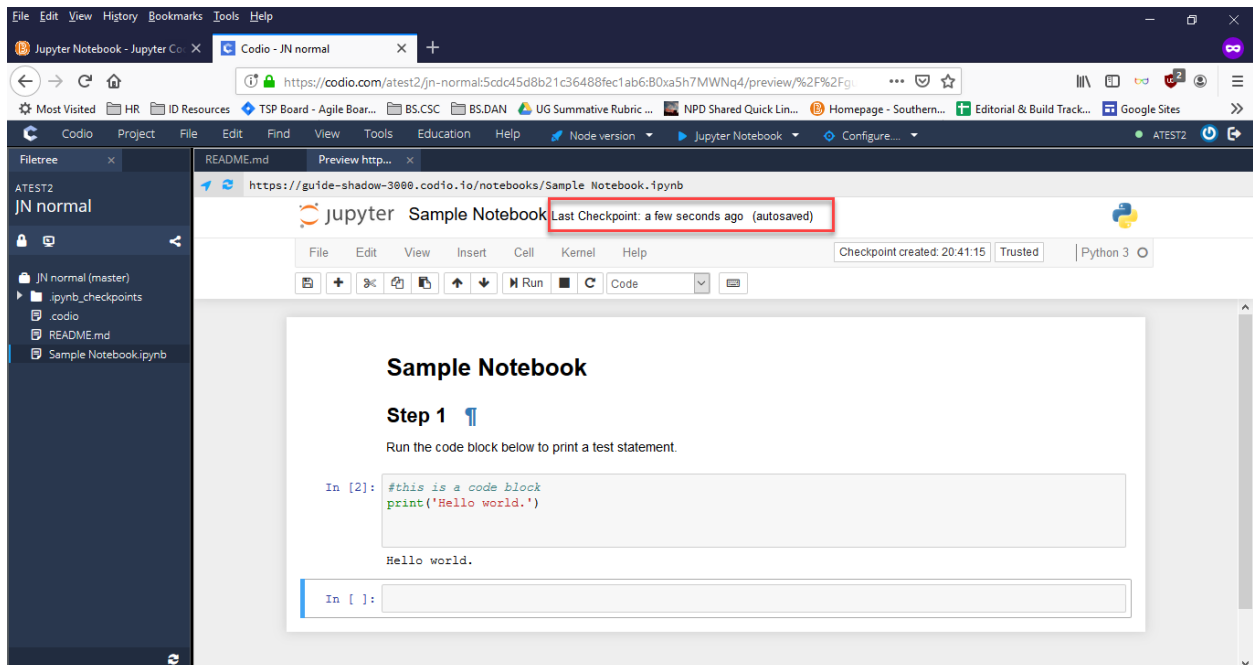
How do I download my work?

Once you have completed the entire assignment, you will need to download your work. To do this, click on **File**, then **Download As**, then **HTML (.html)** from the Jupyter Notebook menu bar.
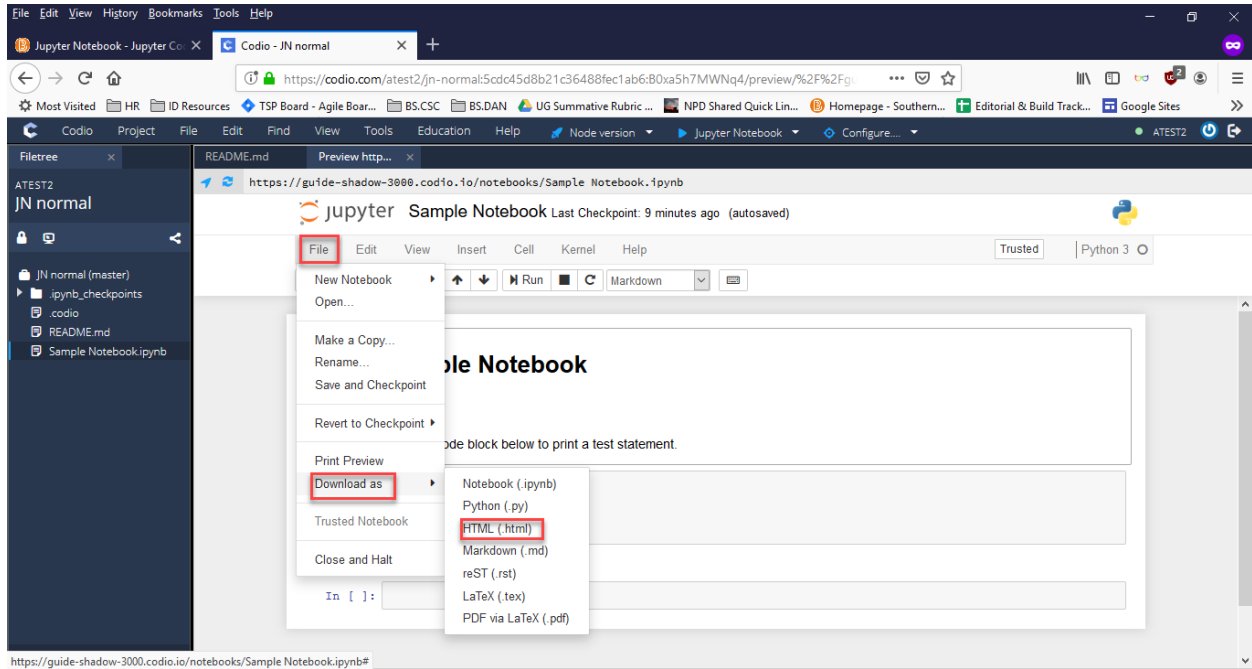

A dialog box will pop up prompting you to open or save the file. Be sure to **Save File**, then click **OK.** Once the file is saved to your computer, you can upload it as part of an assignment submission or attach it to your discussion post just like any other file.
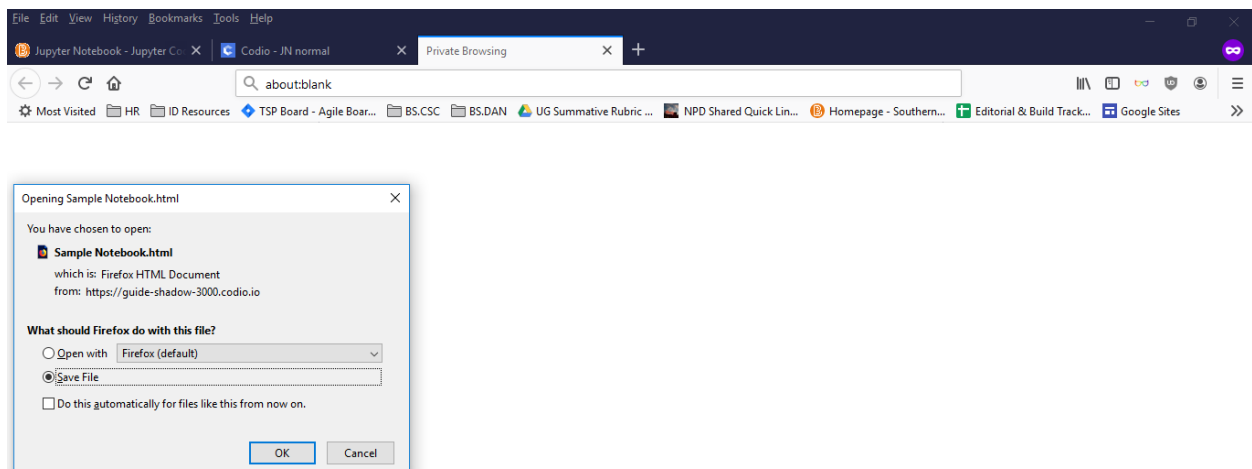
*I accidentally messed up a code block—what do I do?*

If the cell block is still active, you can often press **Ctrl + Z** to undo your recent typing. However, if you really just need to go back to the original starter code for a block, you can do so! First, using the filetree pane, click on the notebook that starts with "BACKUP_" and then the notebook name. In this example, the title is "BACKUP_Sample Notebook." Click to open the backup copy.
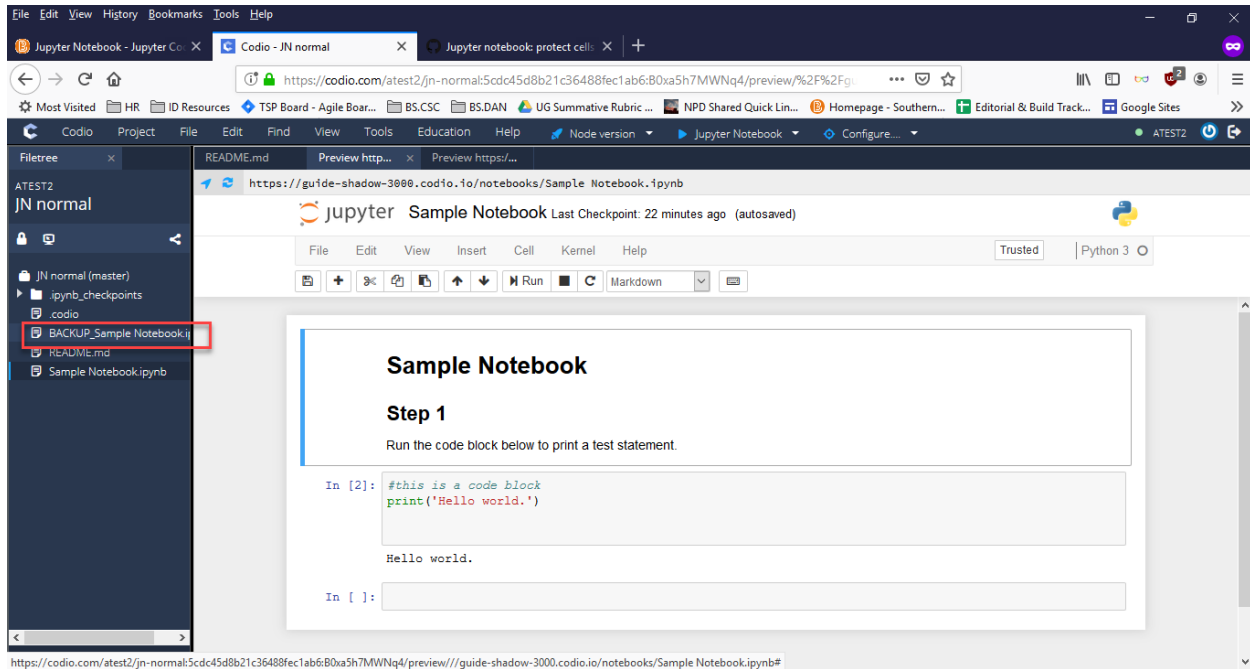

This special notebook is identical to the version you started with. However, in this version, none of the cells can be edited or changed. However, you can copy the text from the backup copy and paste it into your working notebook. To do this, click on the block containing the code that you need. Highlight the code, then press **Ctrl + C** to copy the code.
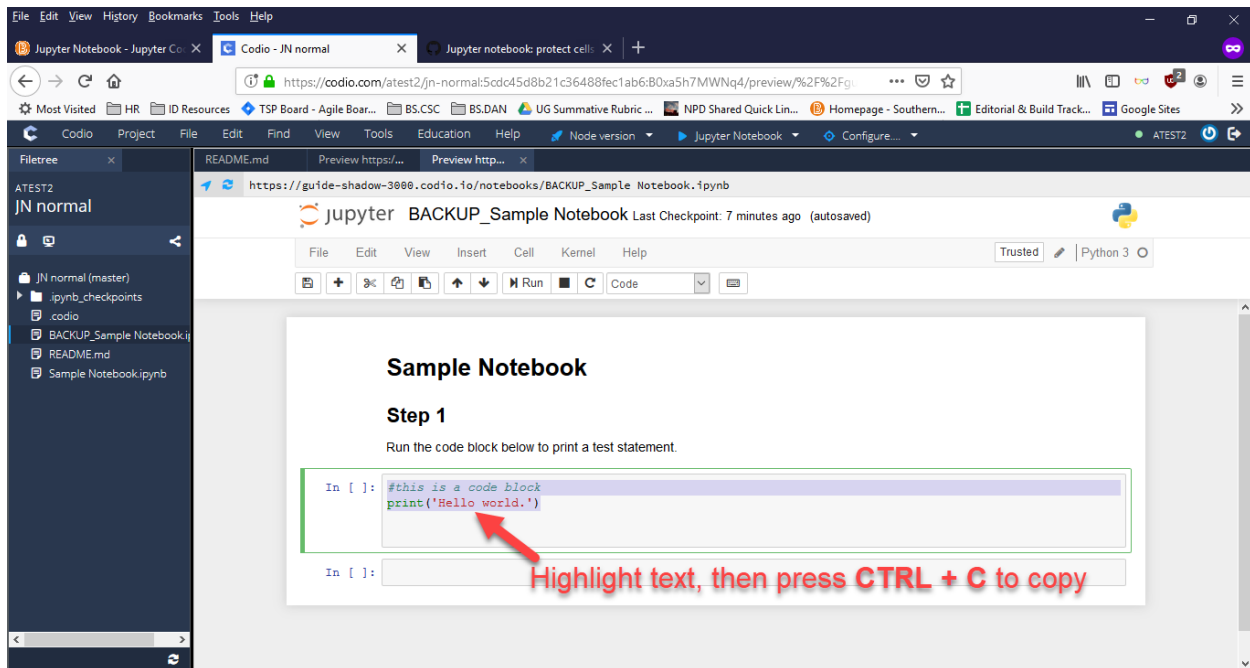
Select your working notebook from the **filetree**. Find the code block you want to fix and highlight the code you want to replace. Be sure to save your work after you have made any fixes.
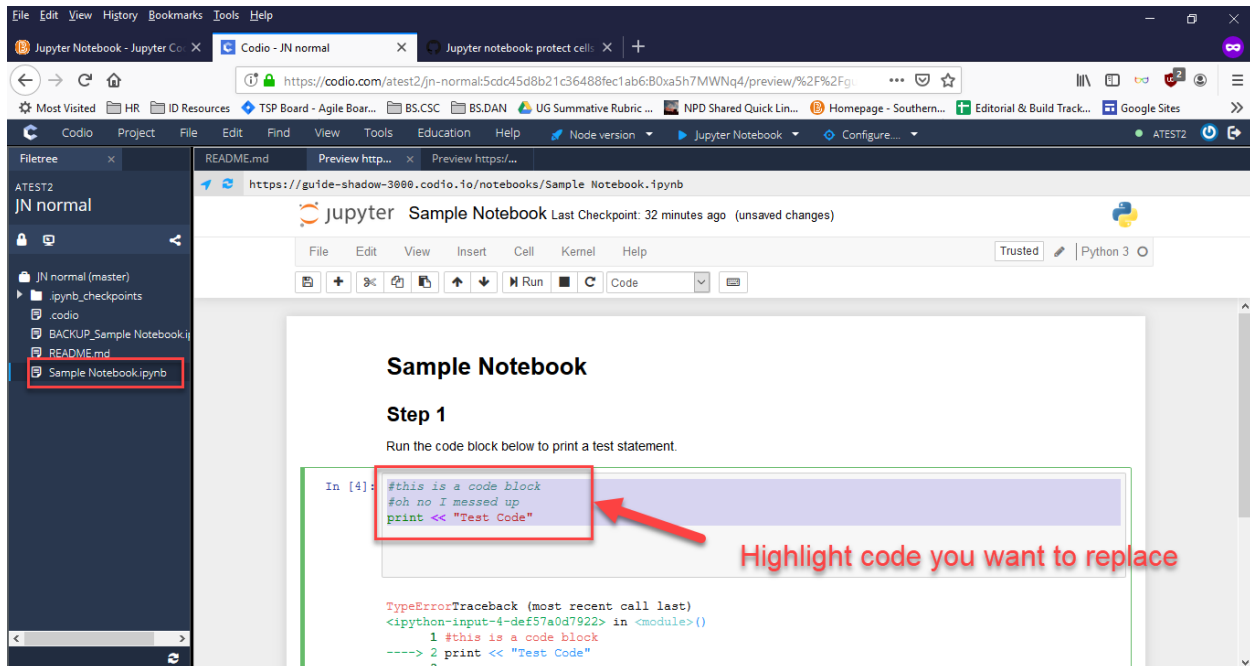
Finally, press **Ctrl + V** to paste in the code from the backup notebook. From here, you can fix the code, then press **Run** again to get the new output. If you had errors from when you ran the cell previously, they will not automatically disappear. Make any necessary modifications to the starter code. Then run the block again.
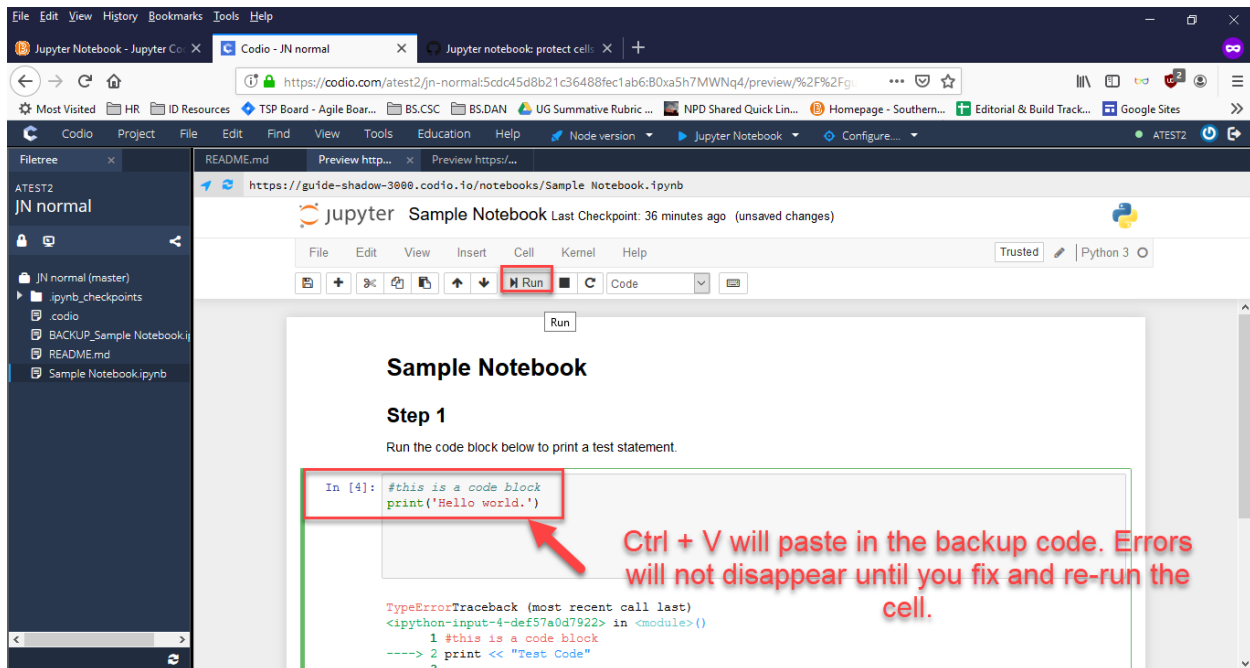
What if I want more practice?

In the Assignment Info area, there is a link to a **Practice Notebook**. This will take you to a blank Jupyter Notebook, where you can practice writing your own code. It is *highly* recommended that you do *not* experiment with the notebooks for your Discussions or Projects.

Adding Code Blocks

To add a code block, simply click the **+** (plus) button from the Jupyter notebook toolbar.
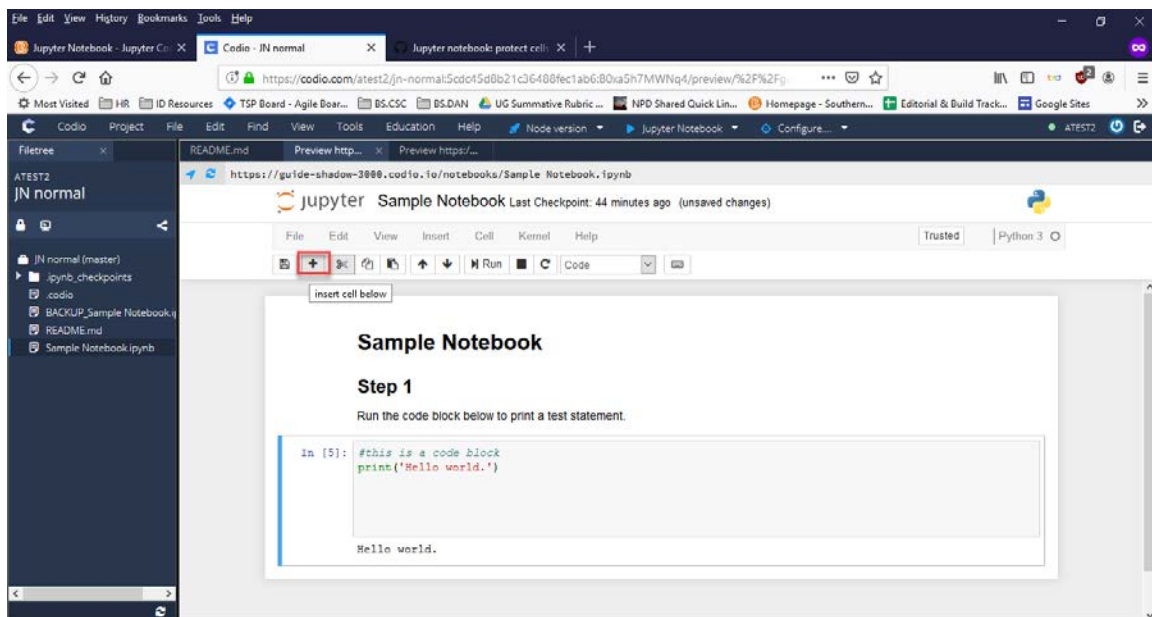
This will add a new block underneath whichever block was previously selected. Typically, a new code block will be created, where you can type Python code. If you would like to add an instructions block, select the arrow on the dropdown menu on the Jupyter notebook toolbar. Then select **Markdown.**
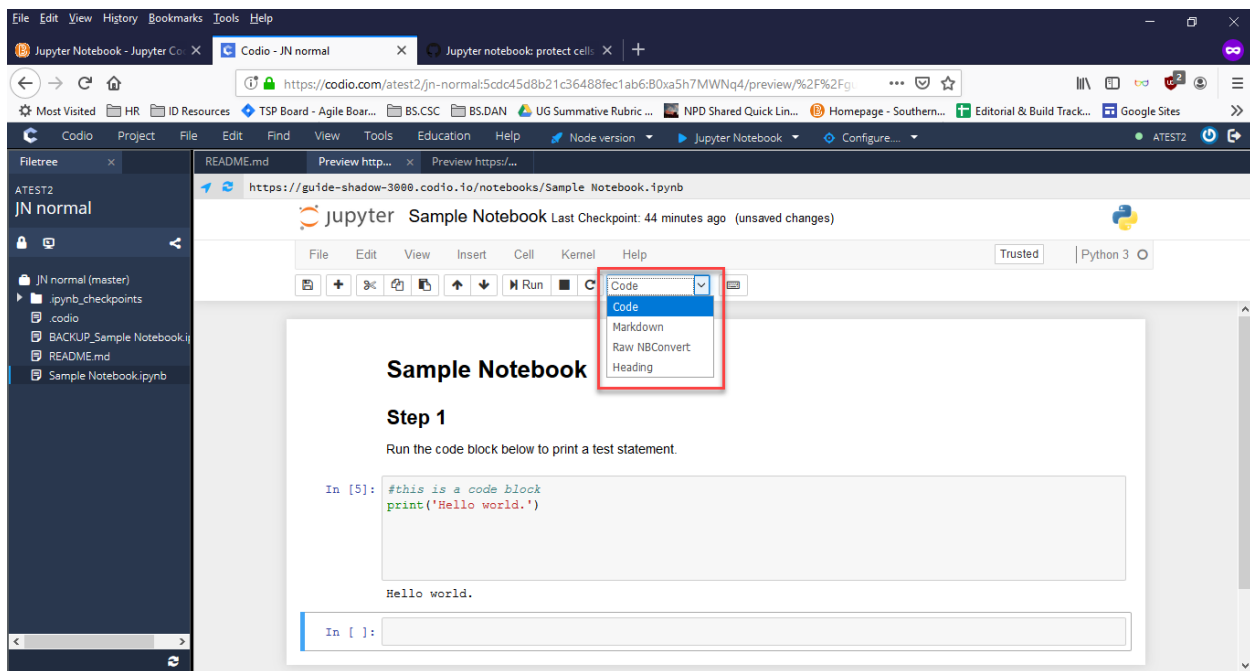

Experiment and add any code or instructions that you like!

Clearing ALL Code Outputs

IMPORTANT: This method will clear the output for **ALL** cells. Do **not** follow these steps if you just want to clear the output for one cell.

When you run a code block, the script will give you some sort of output. If you want to practice with a different data set, or just want to start from scratch, you can do so easily. In the script you want to clear, select **Cell**, then **All Output**, then **Clear.**
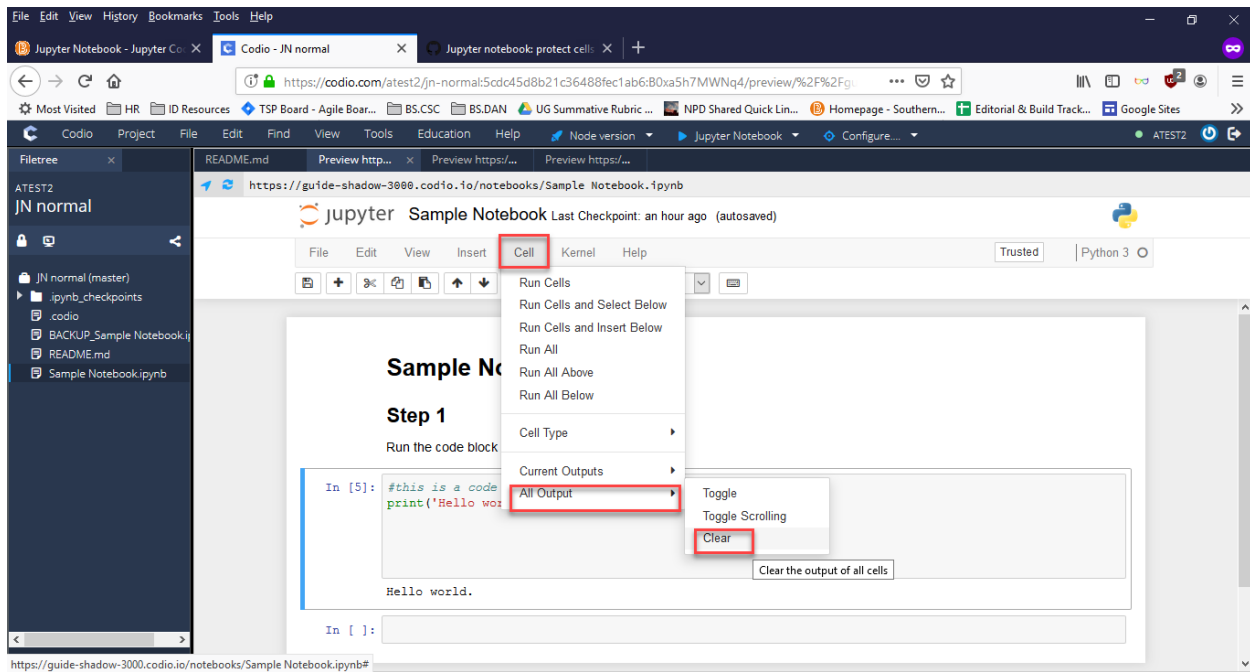
You might see a warning that this step cannot be undone. If you want to clear the output of **all** cells and start from scratch, click "OK". As you can see, the instructions and code blocks are there, but the output is now gone. You could make modifications, then run the code block again to get new output.