Data Science Notebooks

By Ojeifo

"aimed at getting you to kickass in AI"

What is a data science Notebook ?

Data science notebooks are crucial tools for data scientist. Notebooks help us to quickly write and execute code, visualize the results to gain insights. Basically the advantage notebooks have over tradition text editors is the experimentation and quick prototyping. This just means we can try different experiments fast and see whether its successful or its a failure. Some companies like Netflix even use notebooks in production.

Different types of Notebooks

I classify Notebooks as either open source or hosted. Examples of open source notebooks are jupyter and Apache zeppelin. Examples of hosted notebooks include Google Colab, Databricks Collaborative notebooks e.t.c.

Notebook Landscape

Redpoint

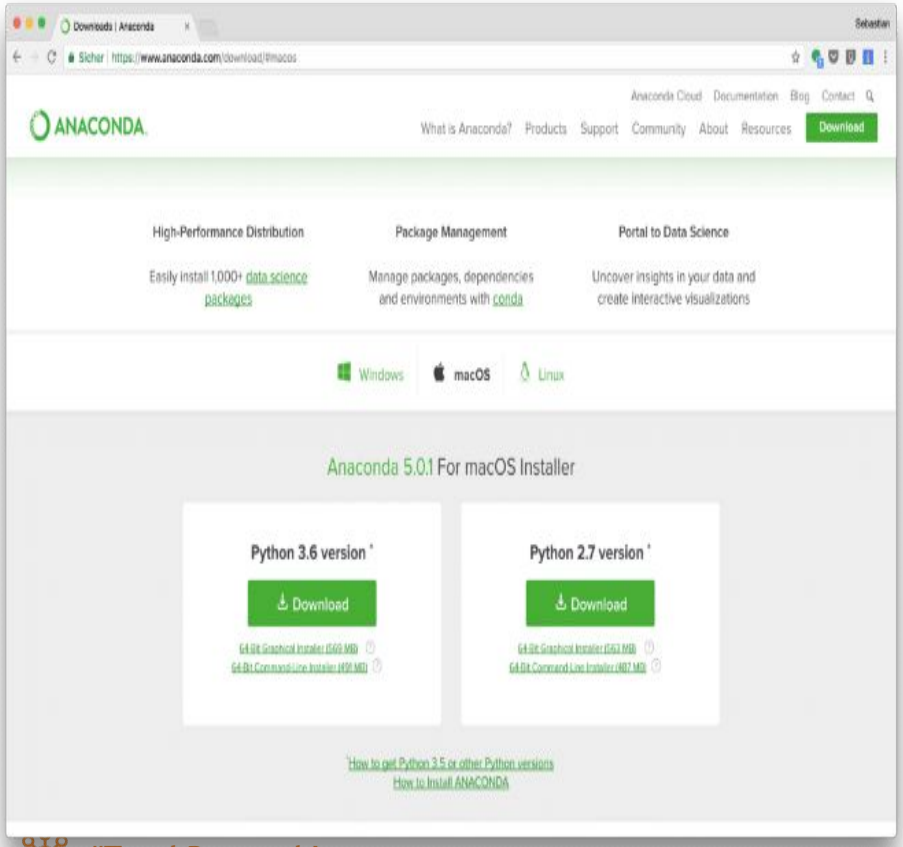
@AstasiaMyers

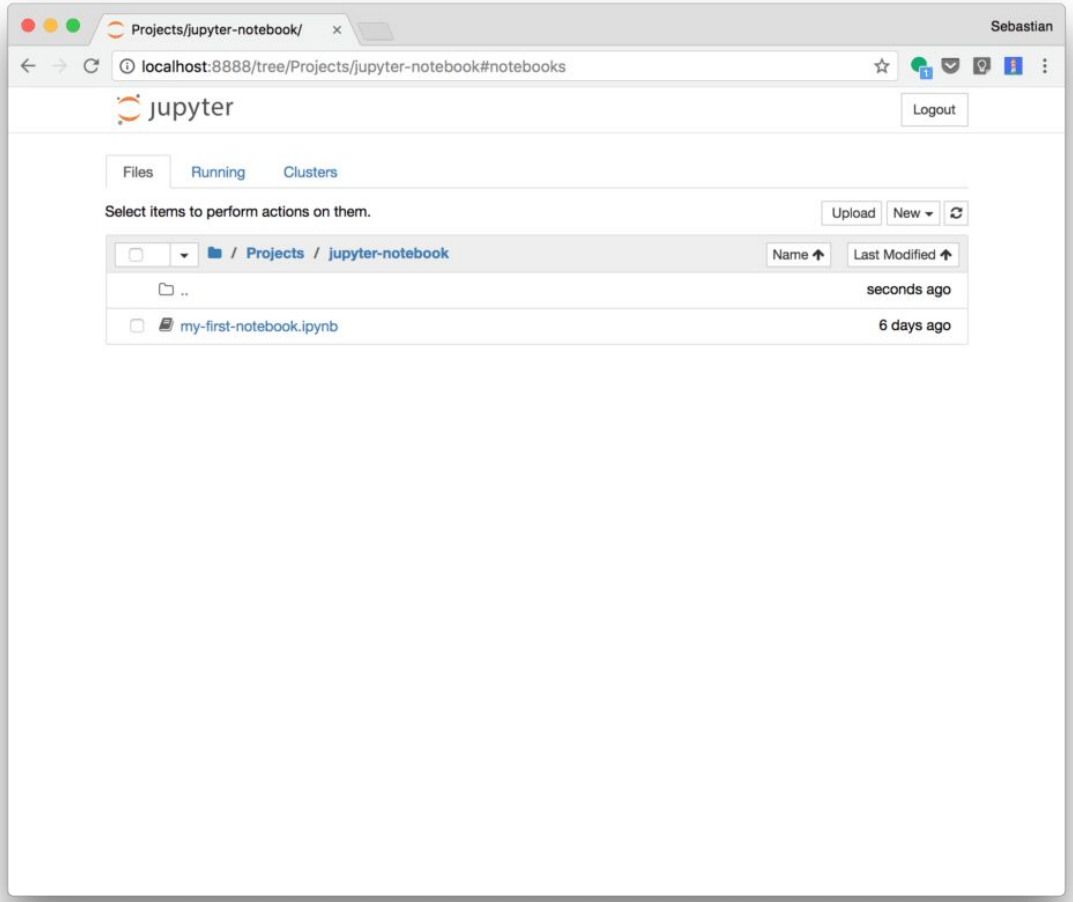
Jupyter Notebook

I would talk about three data science notebooks: Jupyter notebooks, Google Colab and Binder.

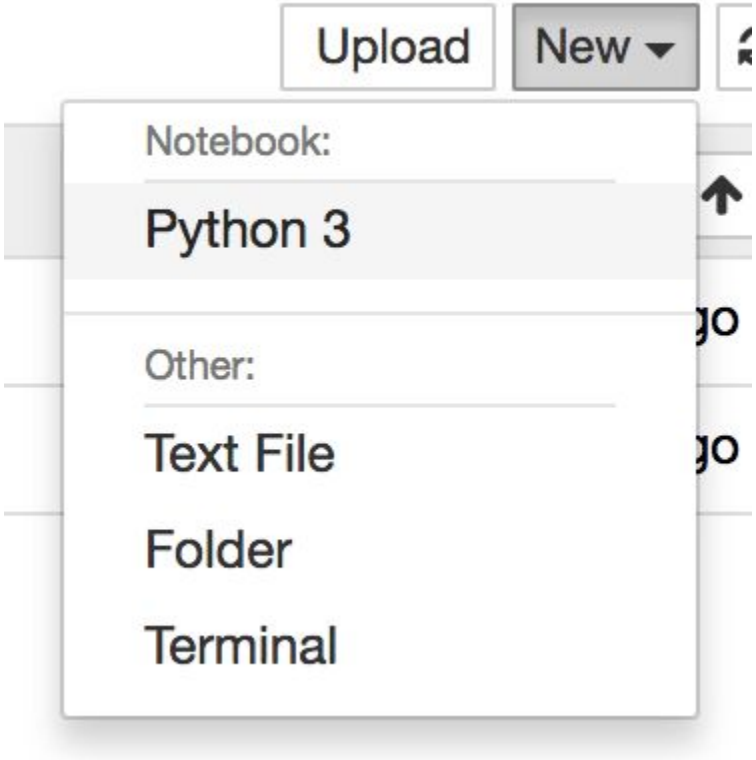
Jupyter Notebook is definitely the most popular, I started with Jupyter Notebooks.

Getting started with Jupyter

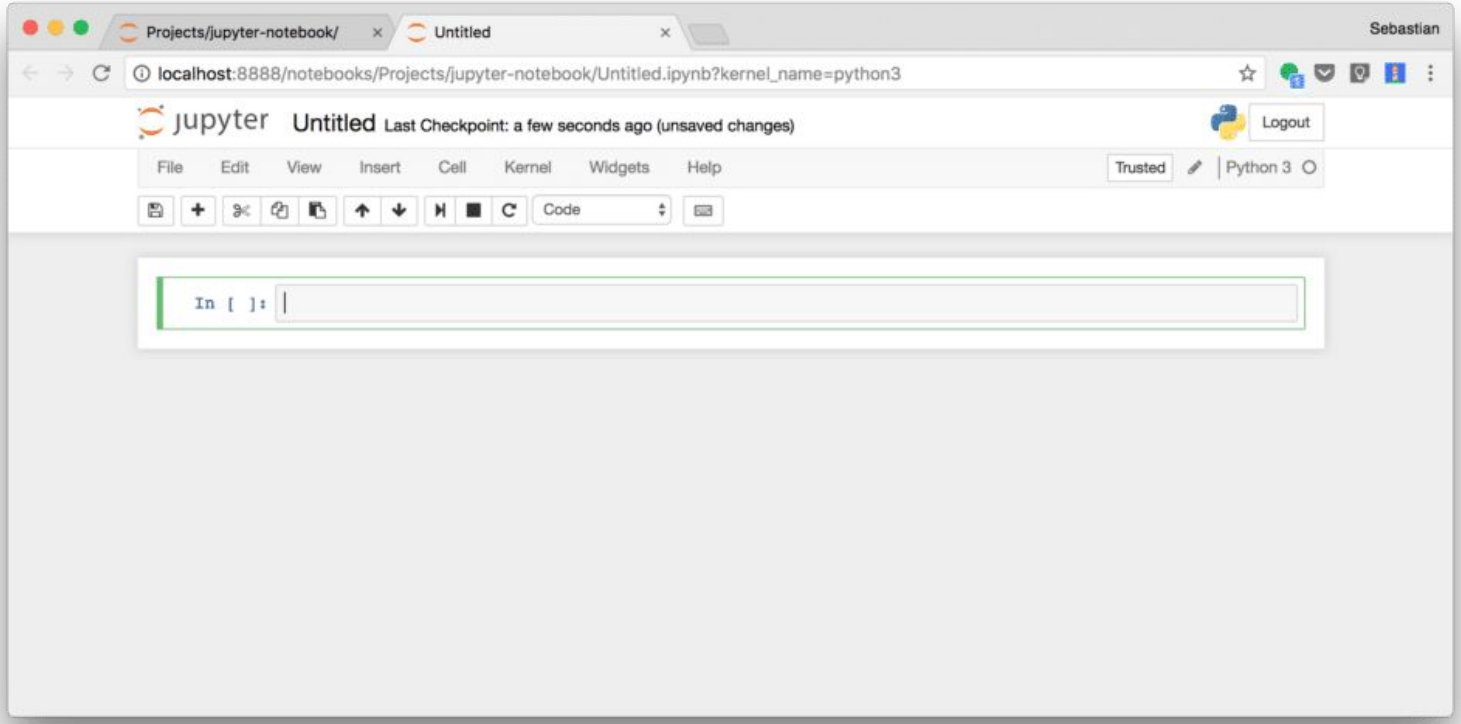



Projects/jupyter-notebook/
Sebastian
localhost:8888/tree/Projects/jupyter-notebook#notebooks
jupyter
Logout
Files
Running
Clusters
Select items to perform actions on them.
Upload
New
/ Projects / jupyter-notebook
Name
Last Modified
..
seconds ago
my-first-notebook.ipynb
6 days ago

Starting a notebook



Jupyter Notebook UI



Jupyter Notebook shortcuts

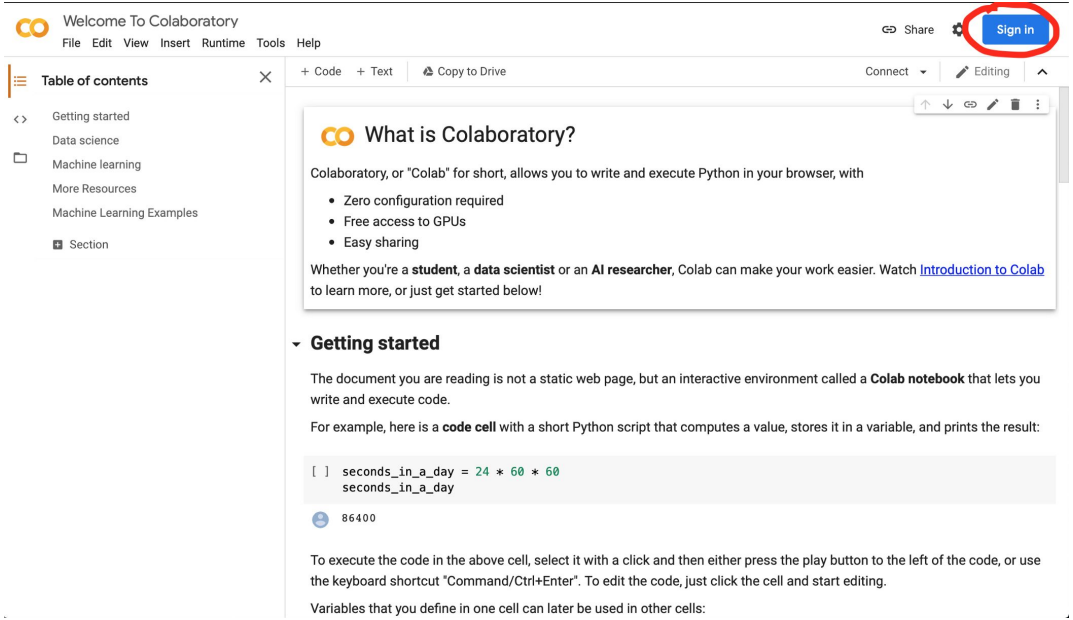
Function	Keyboard Shortcut	Menu Tools
Save notebook	Esc + s	File → Save and Checkpoint
Create new cell	Esc + a (above), Esc + b (below)	Insert→ cell above Insert → cel below
Run Cell	Ctrl + enter	Cell → Run Cell
Copy Cell	c	Copy Key
Paste Cell	v	Paste Key
Interrupt Kernel	Esc + i i	Kernel → Interrupt
Restart Kernel	Esc + 0 0	Kernel → Restart
Find and replace on your code but not the outputs	Esc + f	N/A
merge multiple cells	Shift + M	N/A
When placed before a function Information about a function from its documentation	?	N/A

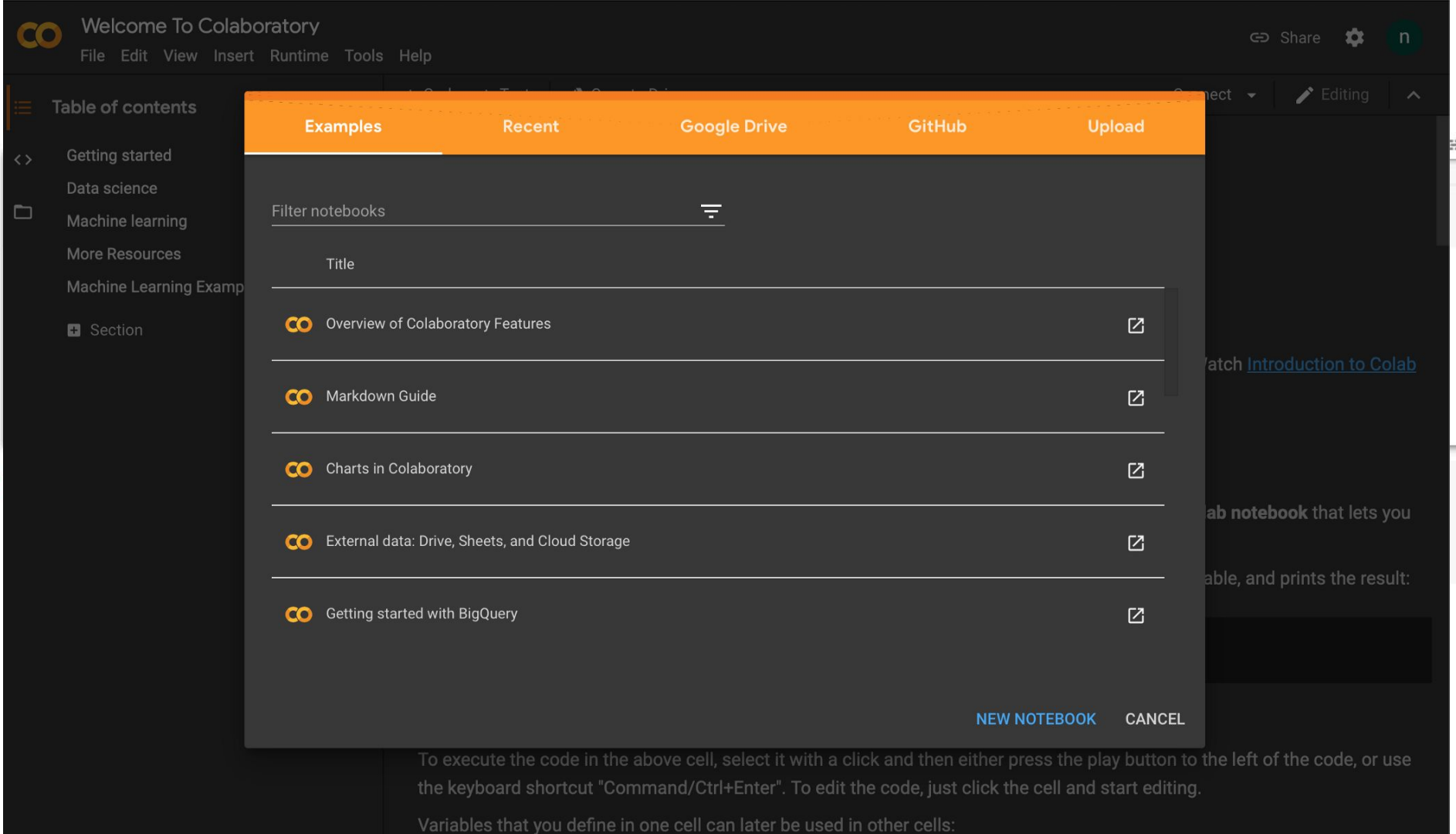
```
dtype: object
```

Google Colab

Colaboratory, or “Colab” for short, is a product from Google Research. Colaballows anybody to write and execute arbitrary python code through the browser, and is especially well suited to machine learning, data analysis and education.

Running code in Google Colab is as easy as opening any website. It requires just 2 steps. Yes, you heard me correct.
Sign into Google colab.
Create a new notebook.
That's it. Now you can start writing your code.
Sign in to google colab.
To Sign in to google colab, you need to go to Google Colab url: https://colab.research.google.com
The home page of the Google Colab looks like ——->




Welcome To Colaboratory
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Share
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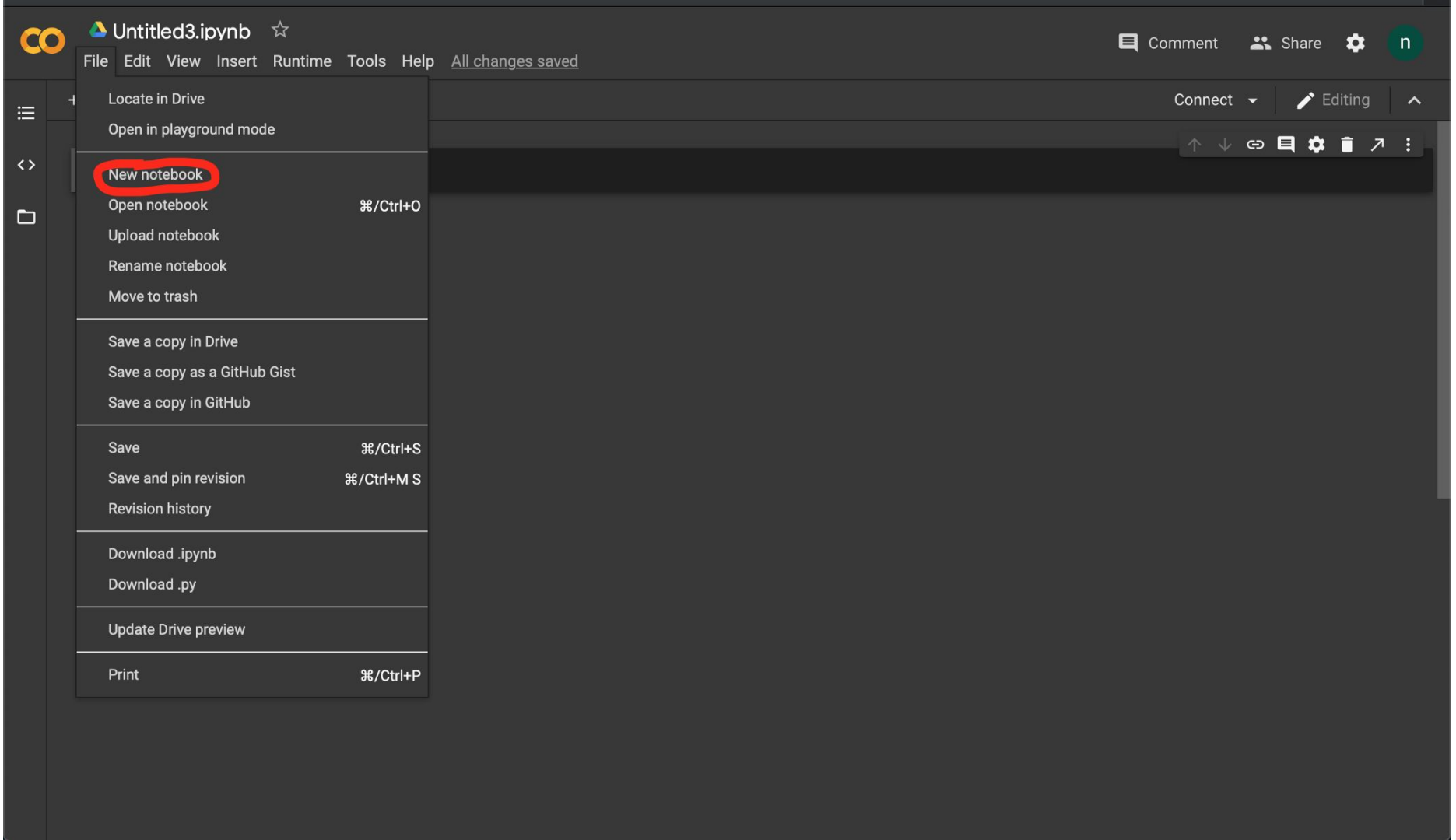
Markdown Guide
Charts in Colaboratory
External data: Drive, Sheets, and Cloud Storage
Getting started with BigQuery
NEW NOTEBOOK
CANCEL
Introduction to Colab
ab notebook that lets you
able, and prints the result:
To execute the code in the above cell, select it with a click and then either press the play button to the left of the code, or use the keyboard shortcut "Command/Ctrl+Enter". To edit the code, just click the cell and start editing.
Variables that you define in one cell can later be used in other cells:


Untitled3.ipynb
File Edit View Insert Runtime Tools Help All changes saved
Comment
Share
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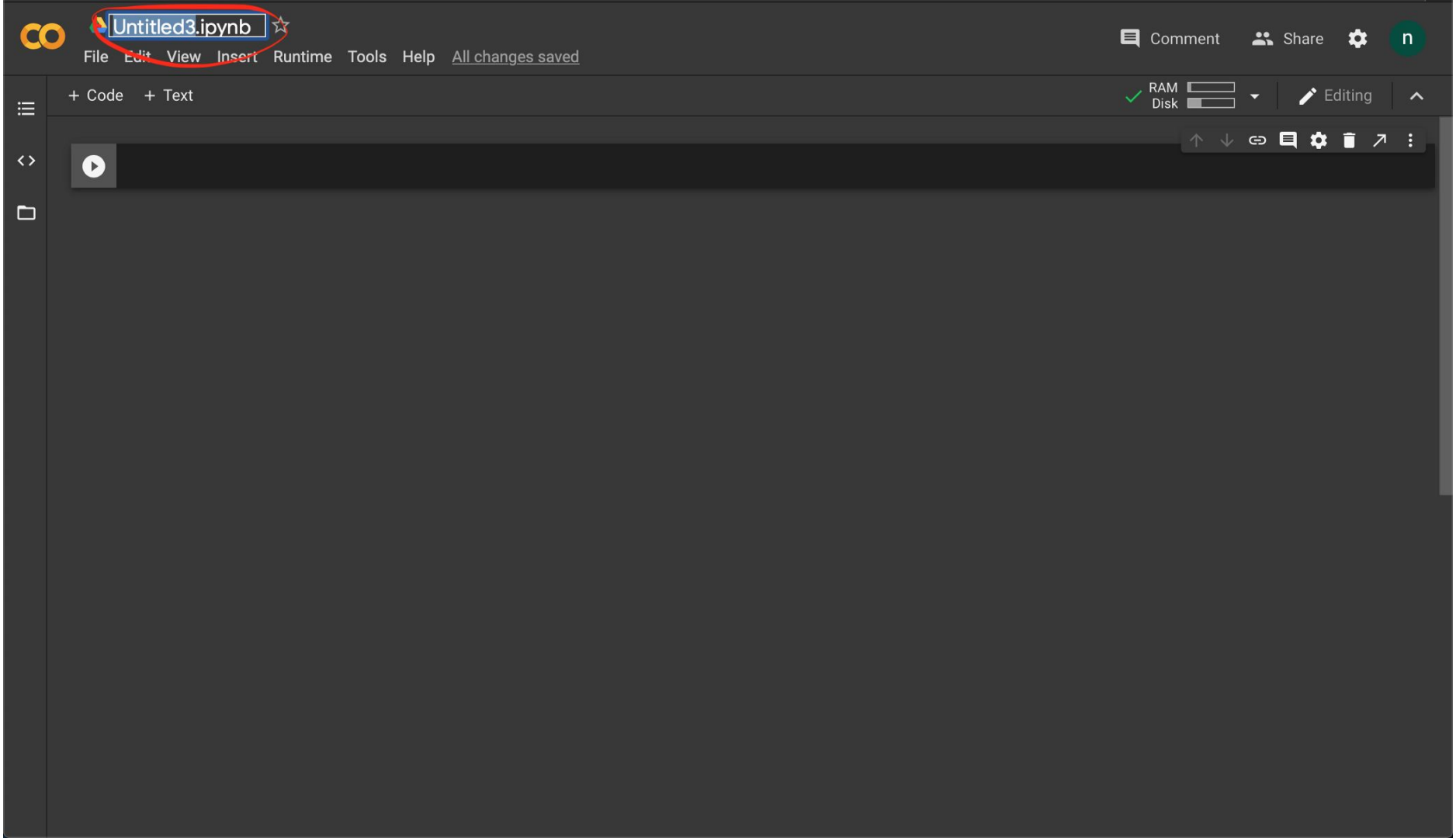
Connect
Editing
Locate in Drive
Open in playground mode
New notebook
Open notebook ⌘/Ctrl+O
Upload notebook
Rename notebook
Move to trash
Save a copy in Drive
Save a copy as a GitHub Gist
Save a copy in GitHub
Save ⌘/Ctrl+S
Save and pin revision ⌘/Ctrl+M S
Revision history
Download .ipynb
Download .py
Update Drive preview
Print ⌘/Ctrl+P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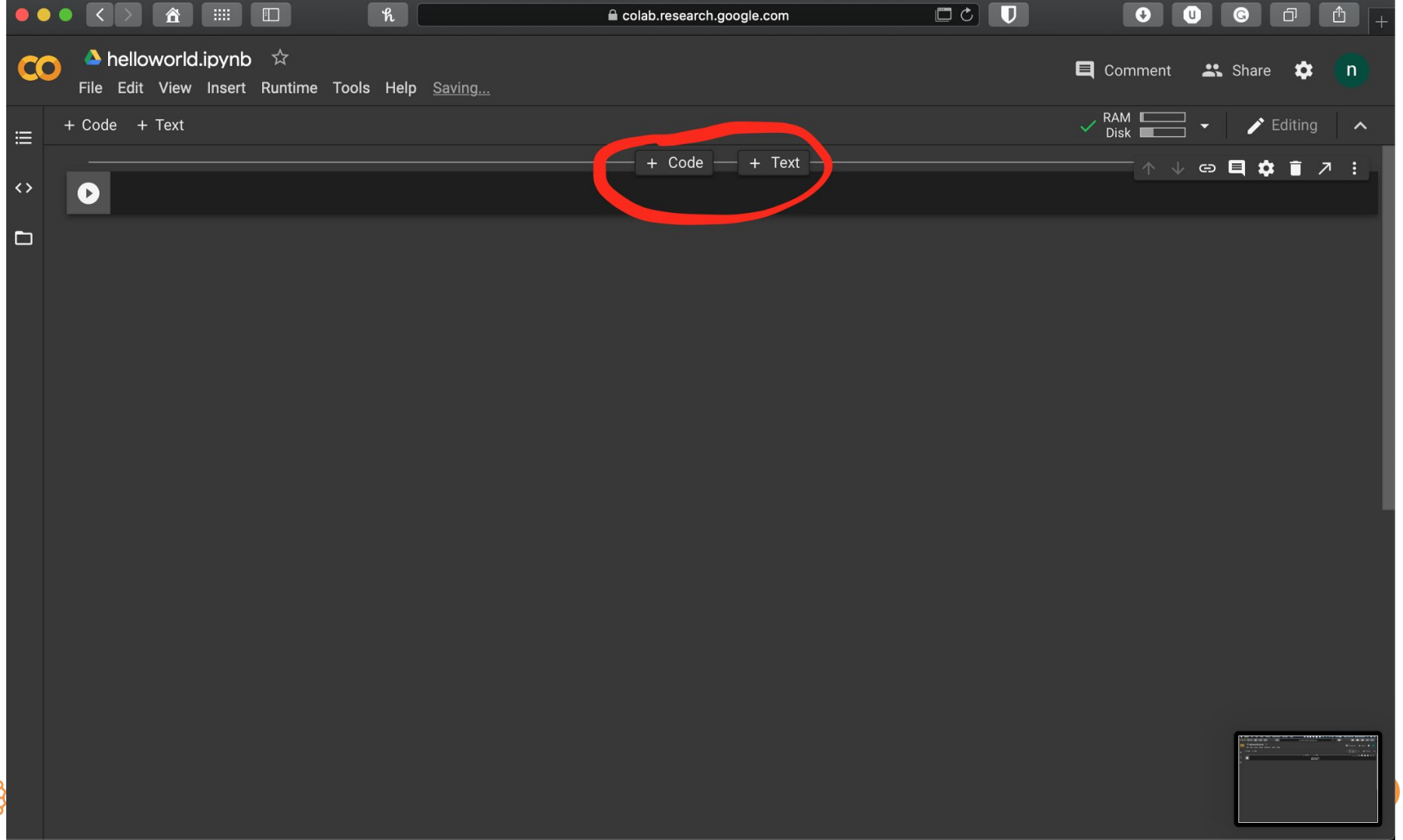
colab.research.google.com
helloworld.ipynb
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+ Code + Text

helloworld.ipynb

File Edit View Insert Runtime Tools Help Saving...

Comment Share n

+ Code + Text

RAM Disk Editing

This is my first Hello world program

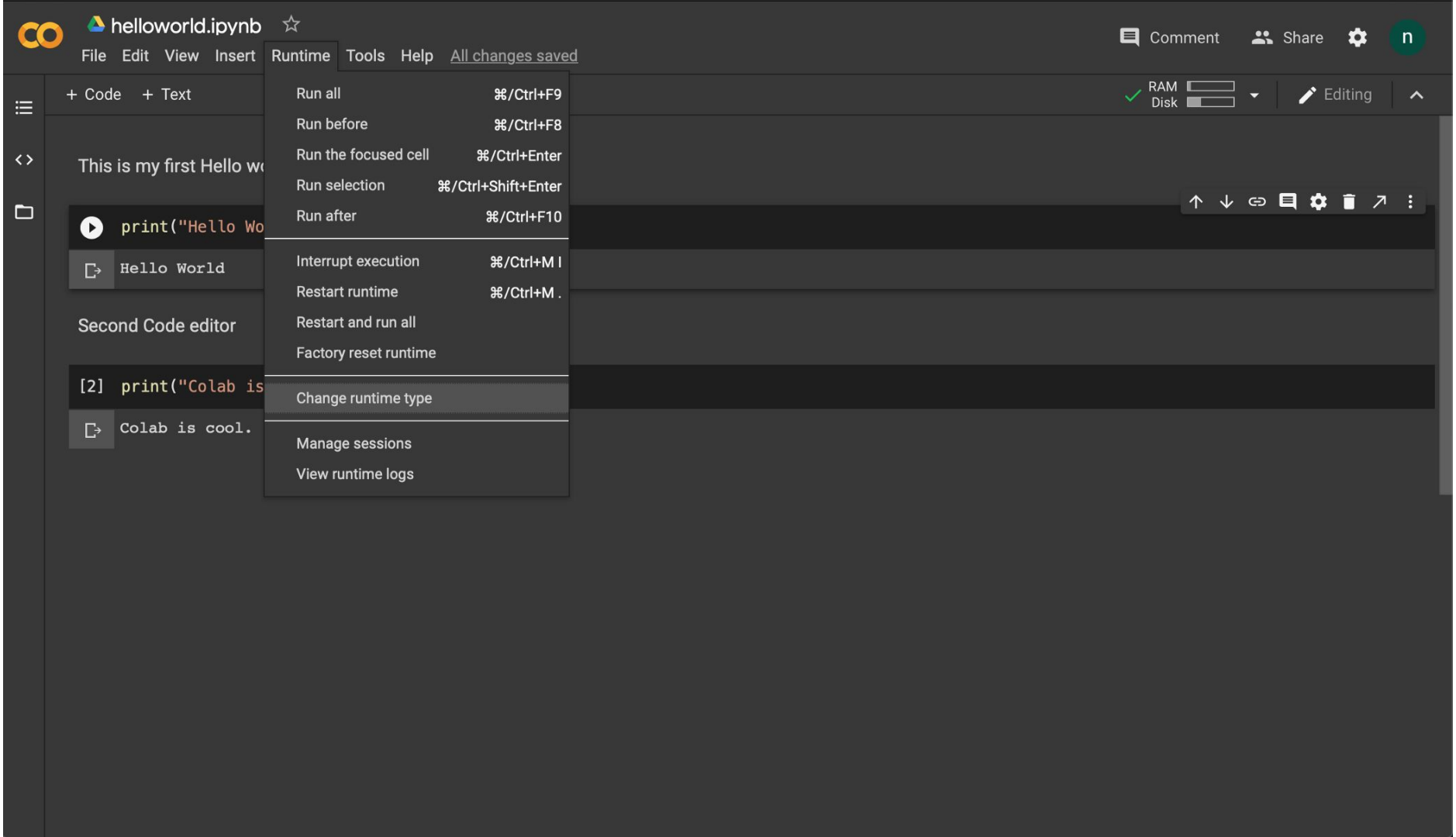
```
[1] print("Hello World")
```

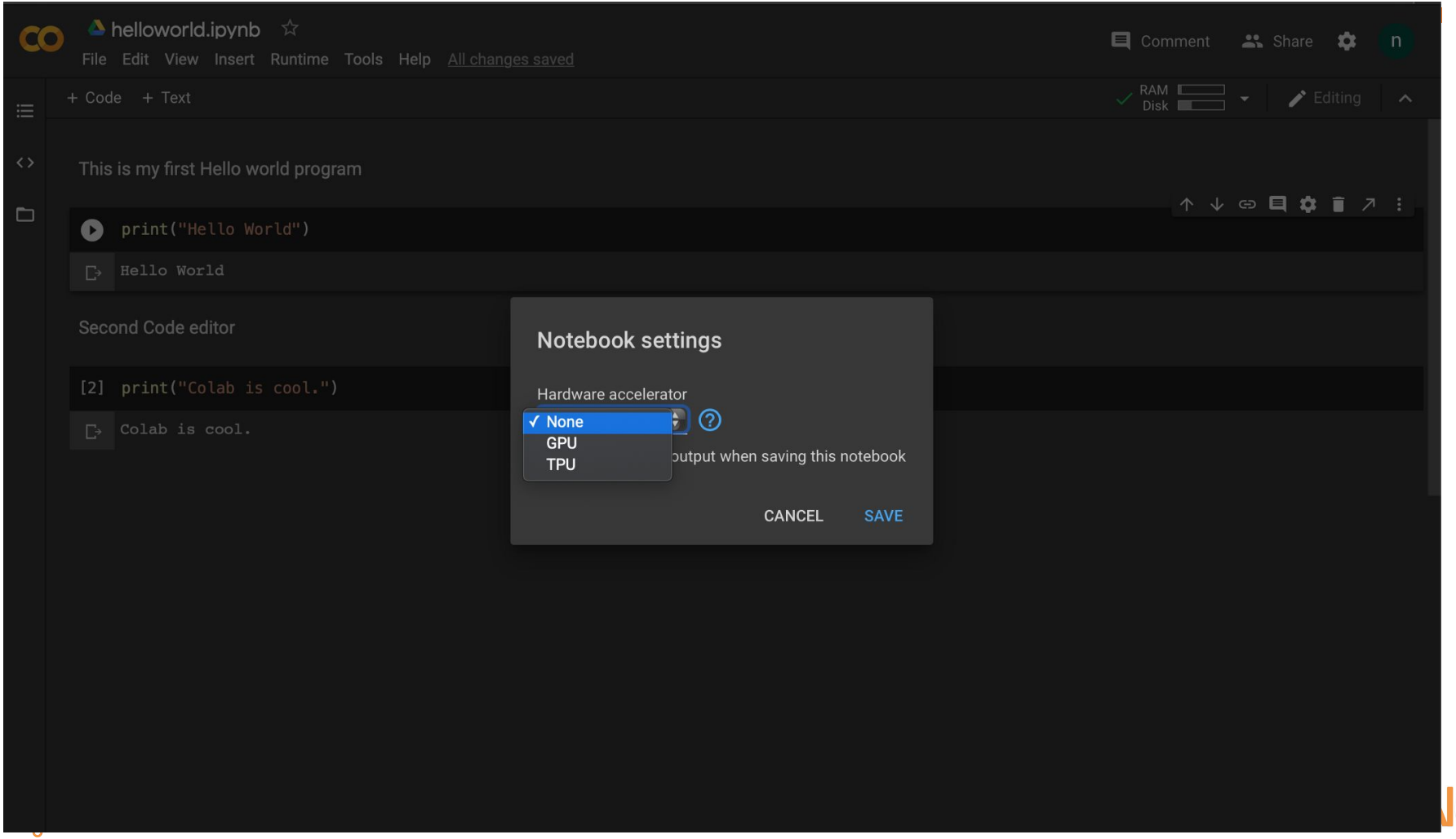
```
Hello World
```

Second Code editor

```
print("Colab is cool.")
```

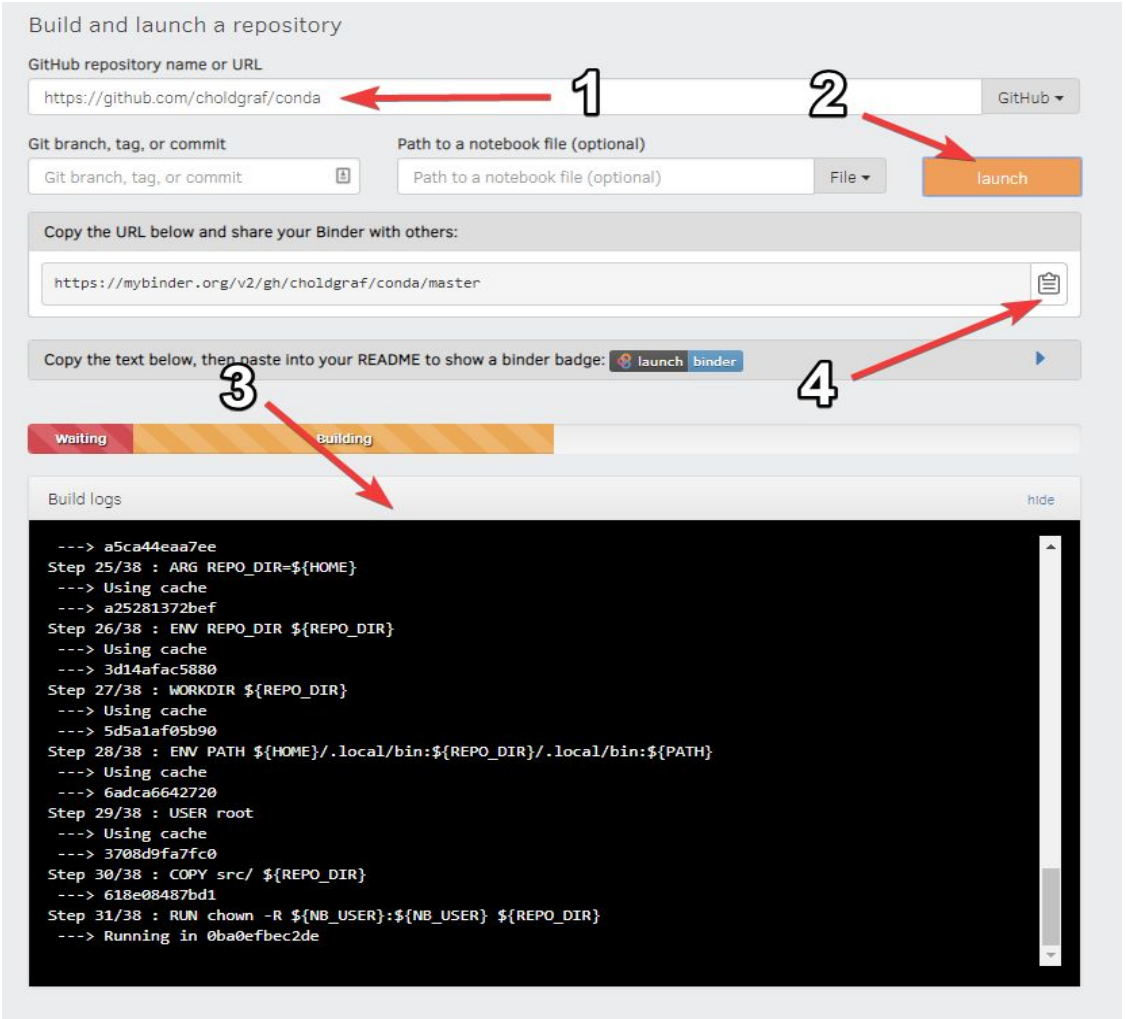
```
Colab is cool.
```


helloworld.ipynb
File Edit View Insert Runtime Tools Help All changes saved
Comment
Share
n
+ Code + Text
RAM
Disk
Editing
This is my first Hello w
print("Hello Wo
Hello World
Second Code editor
[2] print("Colab is
Colab is cool.
Run all ⌘/Ctrl+F9
Run before ⌘/Ctrl+F8
Run the focused cell ⌘/Ctrl+Enter
Run selection ⌘/Ctrl+Shift+Enter
Run after ⌘/Ctrl+F10
Interrupt execution ⌘/Ctrl+M I
Restart runtime ⌘/Ctrl+M .
Restart and run all
Factory reset runtime
Change runtime type
Manage sessions
View runtime logs


helloworld.ipynb
File Edit View Insert Runtime Tools Help All changes saved
Comment
Share
n
+ Code + Text
RAM
Disk
Editing
This is my first Hello world program
print("Hello World")
Hello World
Second Code editor
[2] print("Colab is cool.")
Colab is cool.
Notebook settings
Hardware accelerator
None
GPU
TPU
output when saving this notebook
CANCEL
SAVE

Binder

Binder is an online service for building and sharing reproducible and interactive computational environments from online repositories.



BinderHub user interface.

Additional Notebooks to learn

Apache Zeppelin - https://zeppelin.apache.org/

Mlworkspace - https://mltooling.org/ml-workspace

Thank YOU!

Github: https://github.com/AISaturdaysLagos

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Instagram: https://www.instagram.com/aisaturdayslagos/

Youtube: https://www.youtube.com/c/AISaturdaysLagos