



GOOGLE COLAB

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GOOGLE COLAB





google colab - Google Search

https://www.google.com/search?q=google+colab&oq=google+colab&aqs=chrome..69i57j69i60l2j69i59l3.2367j0j7&sourceid=chrome&ie=UTF-8



google colab



AllNewsImagesVideosBooksMoreSettingsTools

About 3,47,00,000 results (0.29 seconds)

Welcome To Colaboratory - Colaboratory - Google

<https://colab.research.google.com/>

These are a few of the notebooks from **Google's** online Machine Learning course. See the full course website for more. Intro to Pandas · Tensorflow concepts ...

You've visited this page 2 times. Last visit: 25/2/19

Google Colaboratory

Colaboratory is a free Jupyter notebook environment that ...

TensorFlow with GPU

Confirm TensorFlow can see the GPU. Simply select "GPU" in the ...

Run in Google Colab

View on TensorFlow.org, Run in Google Colab, View source on ...

[More results from google.com »](#)

Colaboratory – Google


What is Colaboratory? Colaboratory is a research tool ...

Local files, Drive, Sheets ...

This notebook provides recipes for loading and saving data from ...

Importing libraries

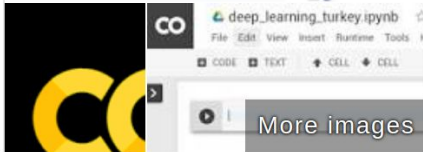
Importing a library that is not in Colaboratory. To import a library ...



Google Col

Colaboratory is a research setup to use.

Seattle, WA https:



Google collaboration

Google Colab is a free cloud service and now it supports free GPU! You can: improve your Python programming



The screenshot shows the Google Colaboratory interface in a web browser. The address bar displays the URL `https://colab.research.google.com/notebooks/welcome.ipynb`. The page has a dark header with the Colab logo and a menu (File, Edit, View, Insert, Runtime, Tools, Help). Below the header is a toolbar with buttons for CODE, TEXT, CELL, COPY TO DRIVE, CONNECT, and EDITING. A sidebar on the left contains a 'Table of contents' with links to 'Introducing Colaboratory', 'Getting Started', 'More Resources', and 'Machine Learning Examples: Seedbank'. The main content area features a large 'Welcome to Colaboratory!' message, followed by a video titled 'Intro to Google Colab' by Coding TensorFlow. The video thumbnail shows a man smiling and the text 'Intro to Google Colab'.

Welcome To Colaboratory

File Edit View Insert Runtime Tools Help

CODE TEXT CELL COPY TO DRIVE

CONNECT EDITING

Table of contents Code snippets Files

- Introducing Colaboratory
- Getting Started
- More Resources
- Machine Learning Examples: Seedbank

SECTION

Welcome to Colaboratory!

Colaboratory is a free Jupyter notebook environment that requires no setup and runs entirely in the cloud. With Colaboratory you can write and execute code, save and share your analyses, and access powerful computing resources, all for free from your browser.

Introducing Colaboratory

This 3-minute video gives an overview of the key features of Colaboratory:

Get started with Google Colaboratory (Coding TensorFlow)

Watch later Share

Intro to Google Colab

Coding TensorFlow

GOOGLE COLAB



The screenshot displays the Google Colaboratory web interface. The browser address bar shows the URL `https://colab.research.google.com/notebooks/welcome.ipynb#scrollTo=5FCEDCU_qrC0`. The page title is "Welcome To Colaboratory". The "File" menu is open, showing options such as "New Python 3 notebook", "New Python 2 notebook", "Open notebook...", "Upload notebook...", "Rename...", "Move to trash", "Save a copy in Drive...", "Save a copy as a GitHub Gist...", "Save a copy in GitHub...", "Save", "Save and pin revision", "Revision history", "Download .ipynb", "Download .py", and "Update Drive preview". The main content area features a large "Welcome to Colaboratory!" heading, a brief description of the environment, and a video titled "Intro to Google Colab" with a play button icon.

Welcome To Colaboratory

File Edit View Insert Runtime Tools Help

New Python 3 notebook

New Python 2 notebook

Open notebook... Ctrl+O

Upload notebook...

Rename...

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

CONNECT EDITING

Welcome to Colaboratory!

Colaboratory is a free Jupyter notebook environment that requires no setup and runs entirely in the cloud.

In Colaboratory you can write and execute code, save and share your analyses, and access powerful computing resources, all for free from your browser.

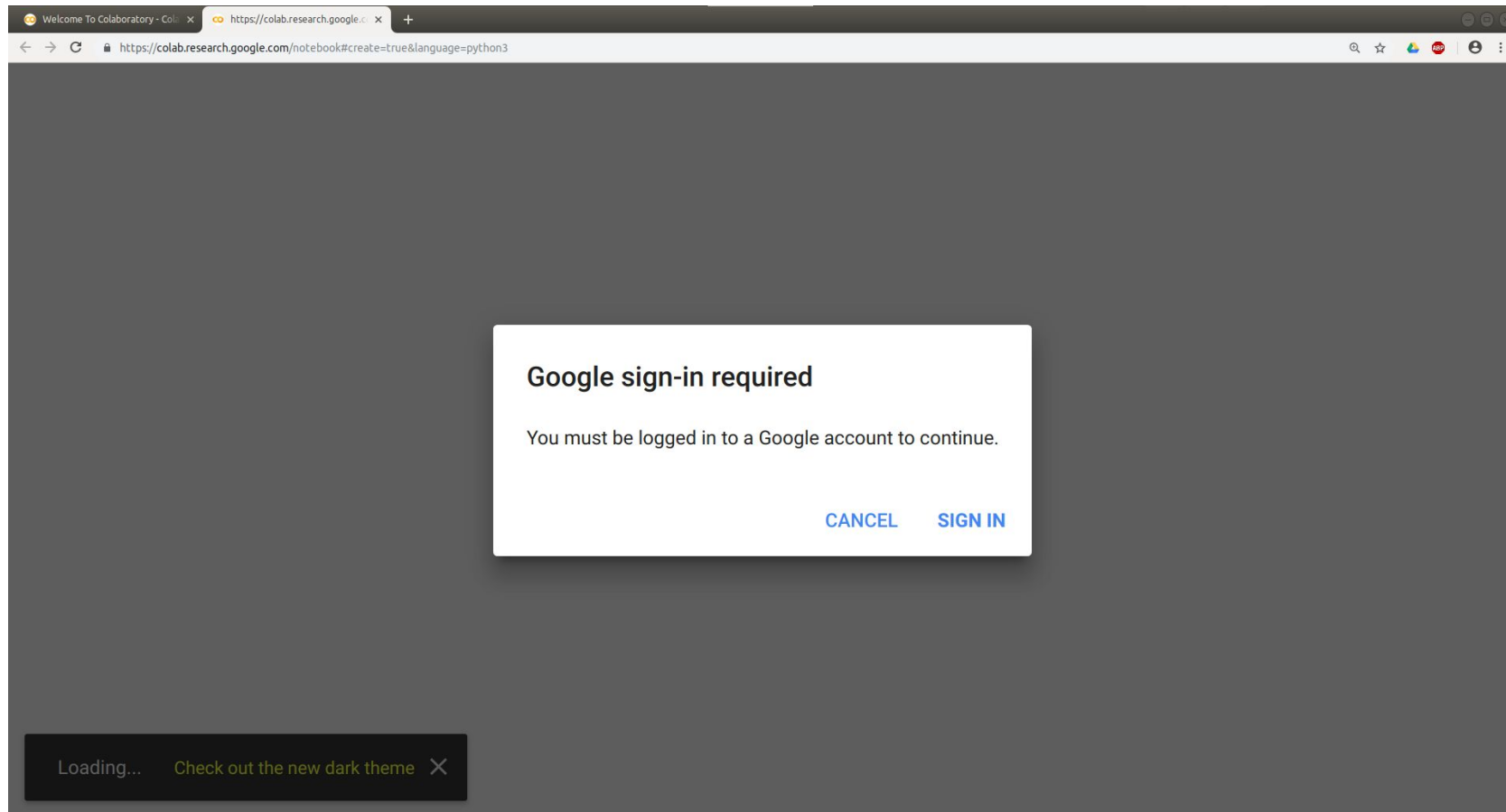
Introducing Colaboratory

This 3-minute video gives an overview of the key features of Colaboratory:

Get started with Google Colaboratory (Coding...)

Watch later Share

Intro to Google Colab



GOOGLE COLAB



The screenshot displays the Google Colab web interface in a browser. The address bar shows the URL <https://colab.research.google.com/drive/16GkXDMPsOoAHAFVWsBcKQzRl7k4T7r6V>. The main header features the Colab logo, the notebook title "Untitled1.ipynb" with a red arrow pointing to it, and a menu bar with options: File, Edit, View, Insert, Runtime, Tools, and Help. On the right side of the header are buttons for COMMENT, SHARE, and a small tree icon. Below the header is a toolbar with tabs for CODE, TEXT, and CELL (with up and down arrows), and buttons for CONNECT, EDITING, and a collapse icon. The main workspace contains a single code cell with a play button icon on the left and a three-dot menu icon on the right.

GOOGLE COLAB



Browser tabs: Welcome To Colaboratory - Colab, Test_HelloWorld.ipynb - Colaboratory

Address bar: <https://colab.research.google.com/drive/16GkXDMPsOoAHAFVWsBcKQzRl7k4T7r6V>

Page title: Test_HelloWorld.ipynb ☆

Menu: File Edit View Insert Runtime Tools Help

Actions: COMMENT, SHARE,

Cell types: + CODE, + TEXT, ↑ CELL, ↓ CELL

Buttons: CONNECT, EDITING, ^

Code editor: [Empty code cell] ⋮

GOOGLE COLAB



Browser tabs: Welcome To Colaboratory - Colab, Test_HelloWorld.ipynb - Colab

Address bar: <https://colab.research.google.com/drive/16GkXDMPsOoAHAFVWsBcKQzRl7k4T7r6V>

Page title: Test_HelloWorld.ipynb ☆

Menu: File Edit View Insert Runtime Tools Help

Buttons: COMMENT, SHARE,

Toolbar: + CODE + TEXT ↑ CELL ↓ CELL CONNECT EDITING ^

Code editor: [Empty code cell with a play button icon]

GOOGLE COLAB



Browser tabs: Welcome To Colaboratory - Colab, Test_HelloWorld.ipynb - Colab

Address bar: <https://colab.research.google.com/drive/16GkXDMPsOoAHAfVWsBcKQzRl7k4T7r6V>

Page title: Test_HelloWorld.ipynb ☆

Menu: File Edit View Insert Runtime Tools Help

Actions: COMMENT, SHARE,

Cell types: + CODE, + TEXT, ↑ CELL, ↓ CELL

Status: ALLOCATING, EDITING

Code editor: A large text area with a play button icon on the left and a vertical scrollbar on the right.

GOOGLE COLAB



Browser tabs: Welcome To Colaboratory - Colab, Test_HelloWorld.ipynb - Colaboratory

Address bar: <https://colab.research.google.com/drive/16GkXDMPsOoAHAFVWsBcKQzRl7k4T7r6V>

Test_HelloWorld.ipynb ☆

File Edit View Insert Runtime Tools Help

COMMENT SHARE

+ CODE + TEXT ↑ CELL ↓ CELL

✓ RAM Disk EDITING

>

▶

GOOGLE COLAB



Browser tabs: Welcome To Colaboratory - Colab x Test_HelloWorld.ipynb - Colabor x

Address bar: <https://colab.research.google.com/drive/16GkXDMPsOoAHAFVWsBcKQzRl7k4T7r6V#scrollTo=KyrHDlCc2c3z>

Test_HelloWorld.ipynb ☆

File Edit View Insert Runtime Tools Help

COMMENT SHARE

+ CODE + TEXT ↑ CELL ↓ CELL

✓ RAM Disk EDITING

```
▶ print("Hello World")
```

GOOGLE COLAB



The screenshot displays the Google Colab web interface. At the top, the browser address bar shows the URL <https://colab.research.google.com/drive/16GkXDMPsOoAHAFVWsBcKQzRl7k4T7r6V#scrollTo=KyrHdICc2c3z>. The main header includes the Google Colab logo, the file name 'Test_HelloWorld.ipynb', and a star icon. Below this is a menu bar with 'File', 'Edit', 'View', 'Insert', 'Runtime', 'Tools', and 'Help'. To the right of the menu are 'COMMENT' and 'SHARE' buttons, along with a small tree icon. The interface is divided into a top toolbar and a main workspace. The toolbar contains buttons for '+ CODE', '+ TEXT', 'CELL' (with an up arrow), and 'CELL' (with a down arrow). On the right side of the toolbar, there are indicators for 'RAM' and 'Disk' usage, a green checkmark, and an 'EDITING' button with a pencil icon. The main workspace features a single code cell. The cell has a play button icon on the left and a three-dot menu icon on the right. The code inside the cell is `print("Hello World")`. A red arrow points from the bottom left towards the play button icon. Below the arrow, the text 'Shift + Enter' is written in red.

Test_HelloWorld.ipynb ☆

File Edit View Insert Runtime Tools Help

+ CODE + TEXT ↑ CELL ↓ CELL

✓ RAM Disk EDITING

▶

▶ print("Hello World") ⋮

Shift + Enter

GOOGLE COLAB



Browser tabs: Welcome To Colaboratory - Colab x Test_HelloWorld.ipynb - Colabor x

Address bar: <https://colab.research.google.com/drive/16GkXDMPsOoAHAfVWsBcKQzRl7k4T7r6V#scrollTo=KyrHdICc2c3z>

Test_HelloWorld.ipynb ☆

File Edit View Insert Runtime Tools Help

+ CODE + TEXT ↑ CELL ↓ CELL

✓ RAM Disk EDITING

```
print("Hello World")
```

Hello World

GOOGLE COLAB



Google Colaboratory interface showing a notebook titled "Test_HelloWorld.ipynb".

The interface includes a menu bar (File, Edit, View, Insert, Runtime, Tools, Help) and a toolbar with options like CODE, TEXT, CELL, and EDITING. A red arrow points to the TEXT button in the toolbar.

The notebook content shows a code cell with the following code:

```
print("Hello World")
```

The output of the code cell is displayed below the code:

```
Hello World
```

GOOGLE COLAB



Welcome To Colaboratory - Colab x Test_HelloWorld.ipynb - Colaboratory x

https://colab.research.google.com/drive/16GkXDMPsOoAHAFVWsBCKQzRl7k4T7r6V#scrollTo=vS06ZmAY4Fm6

CO

Test_HelloWorld.ipynb ☆

File Edit View Insert Runtime Tools Help

+ CODE + TEXT ↑ CELL ↓ CELL

✓ RAM Disk EDITING

>

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

↳ Hello World

⌕ B I <> 🔗 🖼️ ⌵ ⌶ ⌷ ⌸

Here are some documentation related with the code.

Here are some documentation related with the code.

Test_HelloWorld.ipynb

File Edit View Insert Runtime Tools Help

+ CODE + TEXT ↑ CELL ↓ CELL

COMMENT SHARE

RAM Disk EDITING

[2] print("Hello World")
Hello World

T B I <> ↶ ↷ ⌵ ⌴ ⌶ ⌸ ⌹

Here are some documentation related with the code.
First level heading
Some text here.
Second level heading
Sub-section contents goes here.

We can also typeset mathematical equations similar to LaTeX:
$$x = \frac{\text{numerator}}{\text{denominator}}$$

Here are some documentation related with the code.
First level heading
Some text here.
Second level heading
Sub-section contents goes here.

We can also typeset mathematical equations similar to LaTeX:
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The screenshot displays the Google Colab web interface. At the top, the browser address bar shows the URL `https://colab.research.google.com/drive/16GkXDMPsOoAHAFVWsBcKQzRl7k4T7r6V#scrollTo=vS06ZmAY4Fm6`. The notebook title is "Test_HelloWorld.ipynb". The interface includes a menu bar (File, Edit, View, Insert, Runtime, Tools, Help) and a toolbar with tabs for CODE, TEXT, and CELL. A status bar at the top right shows RAM and Disk usage, and an EDITING mode indicator.

The notebook contains a single code cell with the following content:

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

Below the code cell, the rendered output is displayed. It includes a text box with "Hello World" and a rich text editor showing the rendered HTML. The rich text editor contains the following content:

Here are some documentation related with the code.

First level heading

Some text here.

Second level heading

Sub-section contents goes here.

We can also typeset mathematical equations similar to LaTeX:

$$x = \frac{\text{numerator}}{\text{denominator}}$$

The right side of the rich text editor shows the same content rendered in a more polished format, with the headings in bold and the mathematical equation properly typeset.

First level heading

Some text here.

Second level heading

Sub-section contents goes here.

We can also typeset mathematical equations similar to LaTeX:

$$x = \frac{\text{numerator}}{\text{denominator}}$$



Welcome To Colaboratory - Colab x Test_HelloWorld.ipynb - Colaboratory x

https://colab.research.google.com/drive/16GkXDMPsOoAHAFVWsBckQzRI7k4T7r6V#scrollTo=vS6ZmAY4Fm6

co

Test_HelloWorld.ipynb ☆

File Edit View Insert Runtime Tools Help

COMMENT

SHARE

+ CODE + TEXT ↑ CELL ↓ CELL

✓ RAM Disk EDITING

>

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

↗ Hello World

Here are some documentation related with the code.

▼

First level heading

Some text here.

Second level heading

Sub-section contents goes here.

We can also typeset mathematical equations similar to LaTeX:

$$x = \frac{numerator}{denominator}$$

[]



Test_HelloWorld.ipynb - Colaboratory

https://colab.research.google.com/drive/16GkXDMPsOoAHAFVWsBckQzRl7k4T7r6V#scrollTo=T7eo0k5p5_13

CO

Test_HelloWorld.ipynb ☆

File Edit View Insert Runtime Tools Help

COMMENT

SHARE

+ CODE + TEXT ↑ CELL ↓ CELL

✓ RAM Disk EDITING

>

Here are some documentation related with the code.

▼

First level heading

Some text here.

Second level heading

Sub-section contents goes here.

We can also typeset mathematical equations similar to LaTeX:

$$x = \frac{\text{numerator}}{\text{denominator}}$$

▶

import numpy as np
import matplotlib.pyplot as plt



Test_HelloWorld.ipynb - Colaboratory

https://colab.research.google.com/drive/16GkXDMPsOoAHAFVWsBcKQzRl7k4T7r6V#scrollTo=djOt-Pwl8lOs

Test_HelloWorld.ipynb

File Edit View Insert Runtime Tools Help

COMMENT SHARE

CODE TEXT CELL CELL

RAM Disk

EDITING

Here are some documentation related with the code.

First level heading

Some text here.

Second level heading


Sub-section contents goes here.

We can also typeset mathematical equations similar to LaTeX:


$$x = \frac{\textit{numerator}}{\textit{denominator}}$$

```
[4] import numpy as np
import matplotlib.pyplot as plt
```



 UploadImages.ipynb ☆


File Edit View Insert Runtime Tools Help

COMMENT SHARE 

+ CODE + TEXT ↑ CELL ↓ CELL

CONNECT EDITING ^

>



```
from google.colab import files
uploaded = files.upload()
```



UploadImages.ipynb ☆

File Edit View Insert Runtime Tools Help

COMMENT

SHARE



+ CODE + TEXT ↑ CELL ↓ CELL

✓ RAM
Disk

EDITING



```
[1] from google.colab import files  
    uploaded = files.upload()
```



Choose Files No file chosen


Cancel upload




|






 UploadImages.ipynb ☆

File Edit View Insert Runtime Tools Help


COMMENT SHARE 

+ CODE + TEXT ↑ CELL ↓ CELL

✓ RAM Disk EDITING ^



```
from google.colab import files
uploaded = files.upload()
```

 Choose Files imgOCV.zip Cancel upload

[]



UploadImages.ipynb ☆

File Edit View Insert Runtime Tools Help

COMMENT

SHARE



+ CODE + TEXT ↑ CELL ↓ CELL

✓ RAM
Disk

EDITING

```
from google.colab import files  
uploaded = files.upload()
```




Choose Files imgOCV.zip


- **imgOCV.zip**(application/zip) - 108788 bytes, last modified: 07/03/2019 - 100% done
Saving imgOCV.zip to imgOCV.zip

[]



 UploadImages.ipynb ☆

File Edit View Insert Runtime Tools Help

COMMENT SHARE 


+ CODE + TEXT ↑ CELL ↓ CELL

✓ RAM Disk EDITING ^

>

[2]

```
from google.colab import files
uploaded = files.upload()
```


 Choose Files


- **imgOCV.zip**(application/zip) - 108788 bytes, last modified: 07/03/2019 - 100% done

Saving imgOCV.zip to imgOCV.zip

[3]

```
!ls
```

 imgOCV.zip sample_data

 |

⋮



UploadImages.ipynb ☆

File Edit View Insert Runtime Tools Help

COMMENT

SHARE



+ CODE + TEXT ↑ CELL ↓ CELL

✓ RAM
Disk

EDITING



```
[2] from google.colab import files
    uploaded = files.upload(_)
```



Choose Files imgOCV.zip

- **imgOCV.zip**(application/zip) - 108788 bytes, last modified: 07/03/2019 - 100% done
Saving imgOCV.zip to imgOCV.zip

```
[3] !ls
```



imgOCV.zip sample_data



```
!unzip imgOCV.zip
```





UploadImages.ipynb ☆

File Edit View Insert Runtime Tools Help



COMMENT



SHARE



+ CODE + TEXT ↑ CELL ↓ CELL



RAM
Disk



EDITING



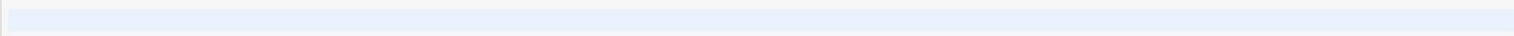
[2] Choose Files img0CV.zip
• **img0CV.zip**(application/zip) - 108788 bytes, last modified: 07/03/2019 - 100% done
Saving img0CV.zip to img0CV.zip

[3] !ls

img0CV.zip sample_data

[4] !unzip img0CV.zip

Archive: img0CV.zip
creating: img0CV/
inflating: img0CV/bird.jpg
inflating: img0CV/forest.jpg
inflating: img0CV/fruit.jpg





UploadImages.ipynb ☆

File Edit View Insert Runtime Tools Help



COMMENT



SHARE



CODE



TEXT



CELL



CELL



RAM
Disk



EDITING



[3] !ls

img0CV.zip sample_data

[4] !unzip img0CV.zip


Archive: img0CV.zip
creating: img0CV/
inflating: img0CV/bird.jpg
inflating: img0CV/forest.jpg
inflating: img0CV/fruit.jpg

[5] !ls --color

img0CV img0CV.zip sample_data






 UploadImages.ipynb ☆

File Edit View Insert Runtime Tools Help

+ CODE + TEXT ↑ CELL ↓ CELL


✓ RAM Disk EDITING

 img0CV.zip sample_data


```
[4] !unzip img0CV.zip

Archive: img0CV.zip
  creating: img0CV/
  inflating: img0CV/bird.jpg
  inflating: img0CV/forest.jpg
  inflating: img0CV/fruit.jpg
```

```
[5] !ls --color
```

 **img0CV** img0CV.zip **sample_data**

```
[6] !ls img0CV/
```

 bird.jpg forest.jpg fruit.jpg

