



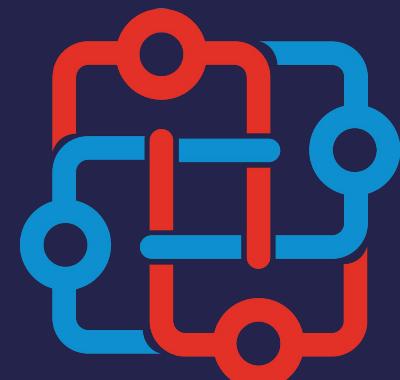
# — EXPLORANDO O — **GOOGLE COLAB**



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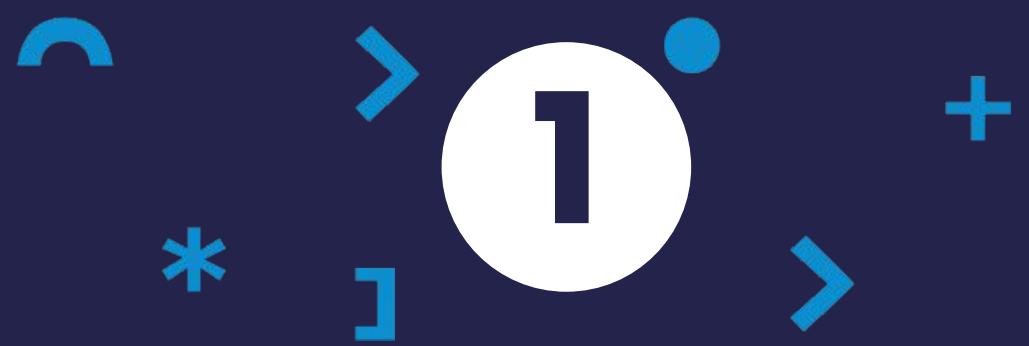
XP Lab



**COMO ABRIR UM  
COLAB NOTEBOOK**

# Como abrir um Colab Notebook

Abra uma janela do seu navegador



A screenshot of a web browser window. The address bar shows 'google.com'. The page displays the classic Google logo and a search bar. Navigation buttons for back, forward, and search are visible at the top. The user's profile picture and account links ('Gmail' and 'Imagens') are in the top right corner.

# Google



Pesquisa Google

Estou com sorte

Recursos para ajudar seu negócio a se manter conectado com clientes e funcionários

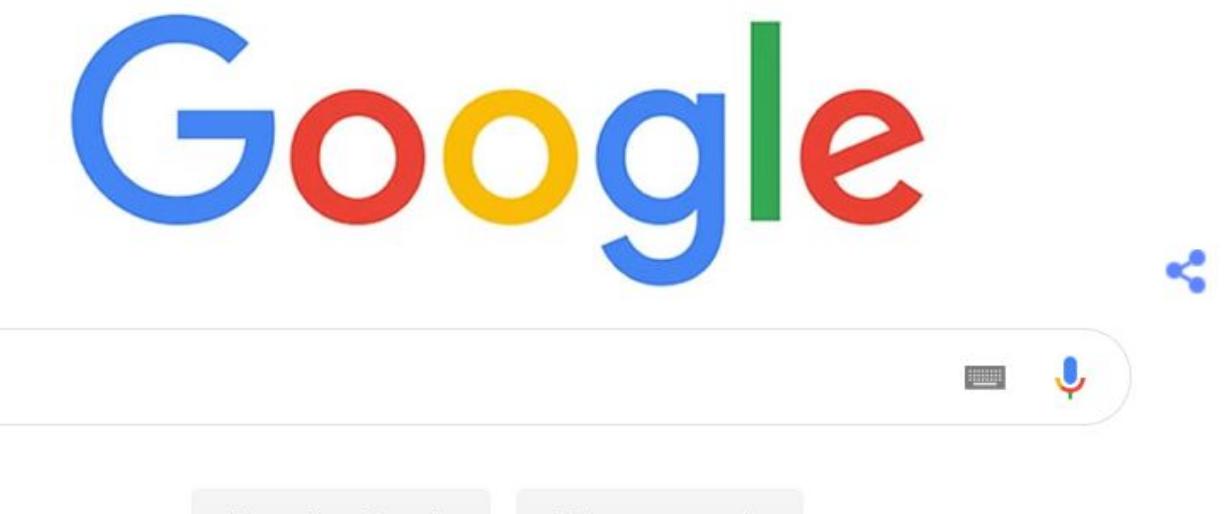
Brasil

Publicidade Negócios Sobre Como funciona a Pesquisa

Privacidade Termos Configurações

# Como abrir um Colab Notebook

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



# Como abrir um Colab Notebook

Clique na parte escura para fechar a janela



Welcome To Colaboratory - Colab x +

colab.research.google.com/notebooks/intro.ipynb#recent=true

Welcome To Colaboratory

File Edit View Insert Runtime Tools Help

Table of contents

- Getting started
- Data science
- Machine learning
- More Resources
- Machine Learning Examples
- Section

+ Code + Text Copy to Drive

Examples Recent Google Drive GitHub Upload

Filter notebooks

Title	First opened	Last opened	Actions
Welcome To Colaboratory	1 hour ago	0 minutes ago	

[to Colab](#) to learn more, or

lets you write and execute

the result:

NEW NOTEBOOK CANCEL

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:

# Como abrir um Colab Notebook

## Esta é a tela inicial do Google Colaboratory



Welcome To Colaboratory - Colab x +

colab.research.google.com/notebooks/intro.ipynb

Welcome To Colaboratory

File Edit View Insert Runtime Tools Help

Table of contents

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- Data science
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+ Code + Text Copy to Drive Connect Editing

## What is Colaboratory?

Colaboratory, or "Colab" for short, allows you to write and execute Python in your browser, with

- Zero configuration required
- Free access to GPUs
- Easy sharing

Whether you're a **student**, a **data scientist** or an **AI researcher**, Colab can make your work easier. Watch [Introduction to Colab](#) to learn more, or just get started below!

### Getting started

The document you are reading is not a static web page, but an interactive environment called a **Colab notebook** that lets you write and execute code.

For example, here is a **code cell** with a short Python script that computes a value, stores it in a variable, and prints the result:

```
[ ] seconds_in_a_day = 24 * 60 * 60
seconds_in_a_day
```

86400

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.

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# Como abrir um Colab Notebook

Clique em File no canto superior esquerdo



Welcome To Colaboratory - Colab x +

colab.research.google.com/notebooks/intro.ipynb

Welcome To Colaboratory

File Edit View Insert Runtime Tools Help

Table of contents

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+ Code + Text Copy to Drive

Share Connect Editing

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# Como abrir um Colab Notebook

## Clique em New Notebook



Welcome To Colaboratory - Colab x +

colab.research.google.com/notebooks/intro.ipynb

File Edit View Insert Runtime Tools Help

New 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

Update Drive preview

Print

Code + Text

Copy to Drive

Ctrl+O

Connect

Editing

Share

What is Colaboratory?

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```
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seconds_in_a_day
```

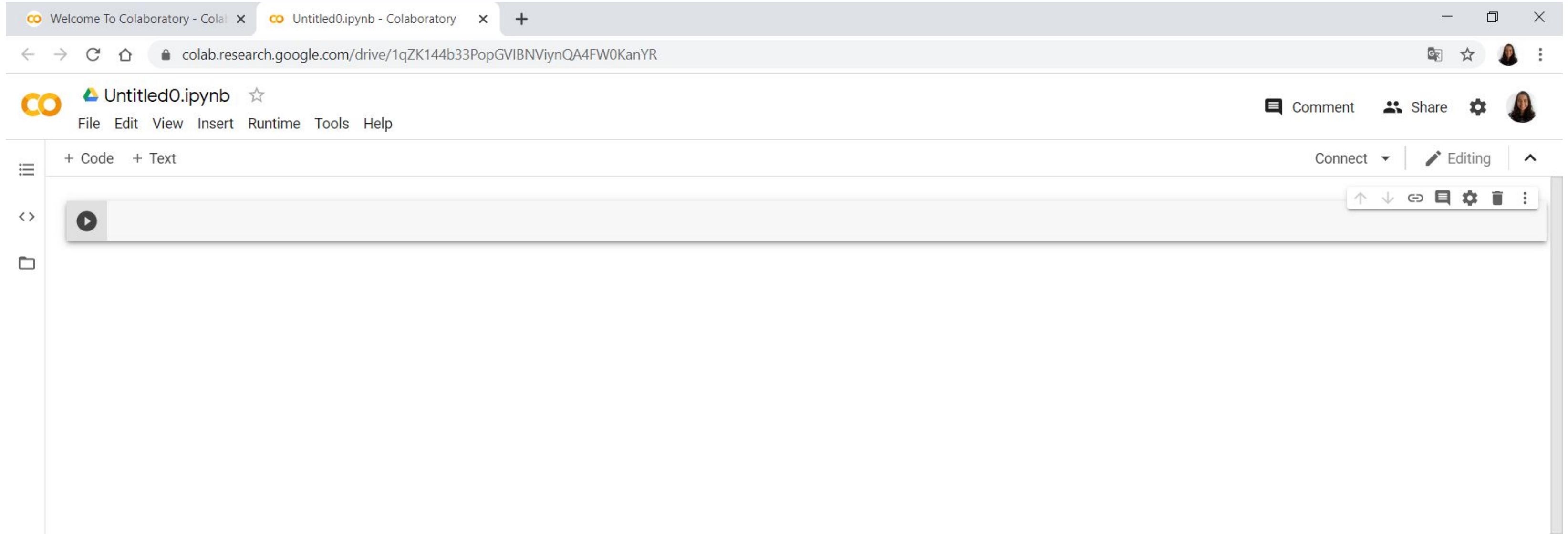
86400

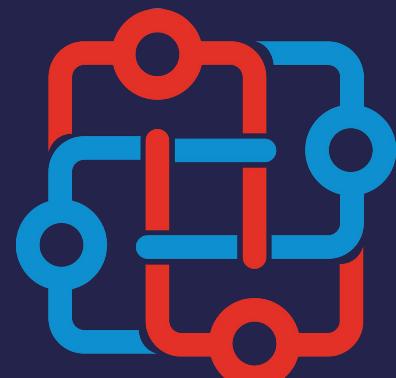
To execute the code in the above cell, select it with a click and then either press the play button to the left of the code, or use the keyboard shortcut "Command/Ctrl+Enter". To edit the code, just click the cell and start editing.

Variables that you define in one cell can later be used in other cells:

# Como abrir um Colab Notebook

Pronto!





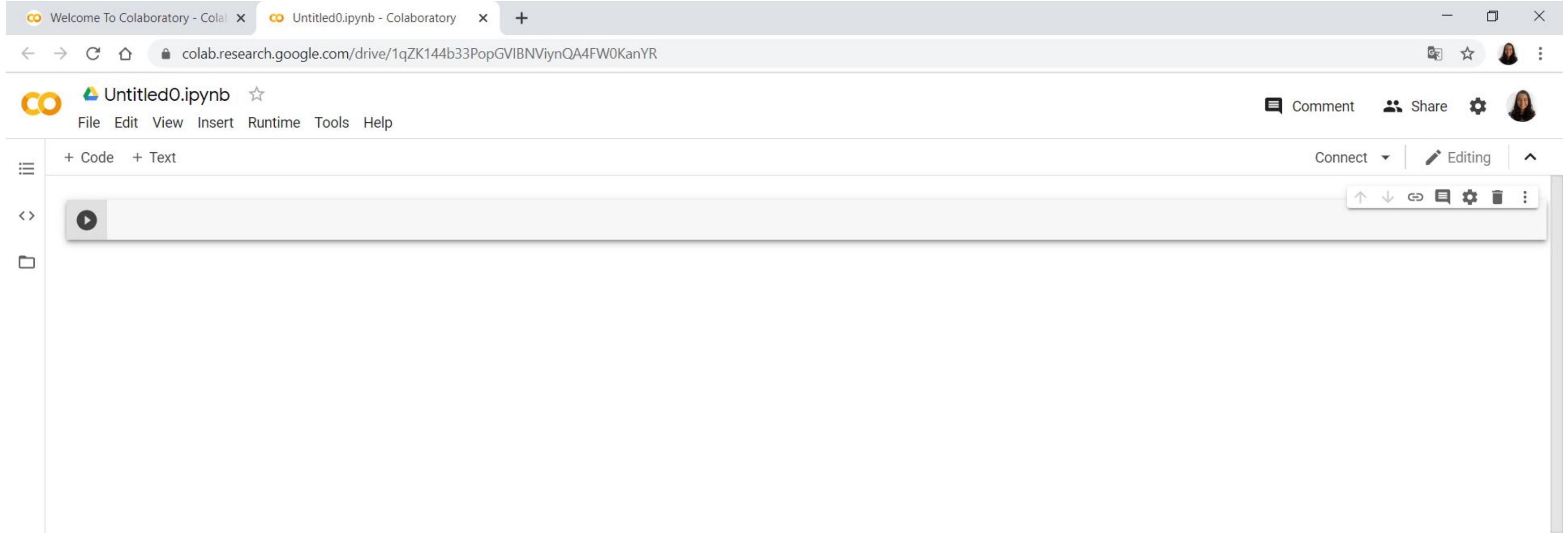
XP Lab



# COMO RENOMEAR UM COLAB NOTEBOOK

# Como renomear um Colab Notebook

Este é um Colab Notebook



# Como renomear um Colab Notebook

Clique em Untitled0.ipynb no canto superior esquerdo



The screenshot shows the Google Colaboratory interface. At the top, there are two tabs: 'Welcome To Colaboratory - Colab' and 'Untitled0.ipynb - Colaboratory'. Below the tabs is a toolbar with icons for back, forward, search, and file operations. The main area shows a notebook titled 'Untitled0.ipynb'. The title bar has a blue selection box around 'Untitled0.ipynb'. A cursor arrow points to the top-left corner of this title bar. The menu bar includes 'File', 'Edit', 'View', 'Insert', 'Runtime', 'Tools', and 'Help'. On the right side, there are 'Comment', 'Share', and profile icons. Below the menu is a toolbar with 'Code' and 'Text' buttons, a play button, and other notebook controls.

Em caso de dúvida,  
“ipynb” é a extensão de  
um notebook.

# Como renomear um Colab Notebook

## Renomeie com o nome que quiser e aperte ENTER

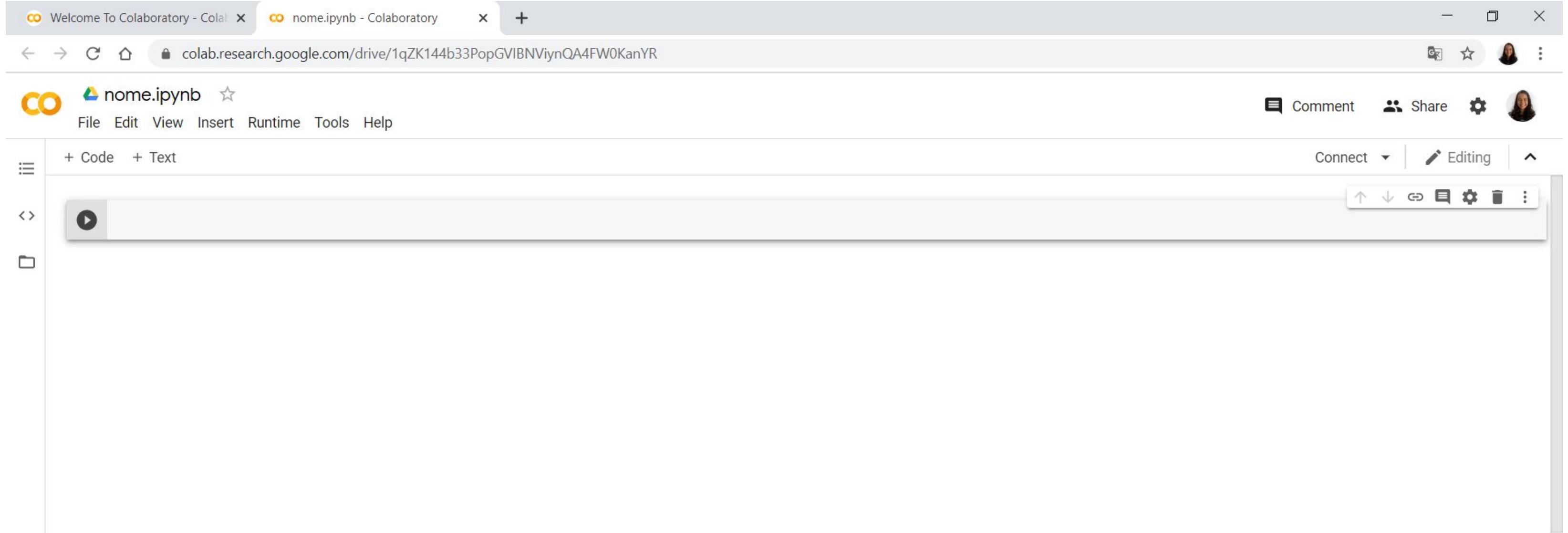


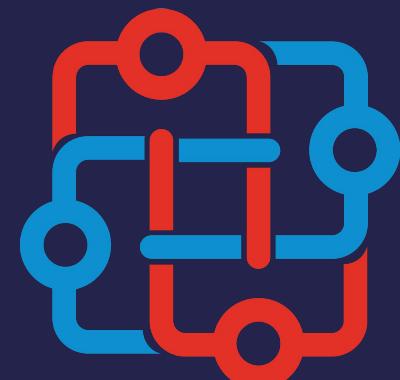
The screenshot shows the Google Colaboratory interface. At the top, there are two tabs: 'Welcome To Colaboratory - Colab' and 'Untitled0.ipynb - Colaboratory'. The main window displays a notebook titled 'nome.ipynb'. The title bar includes the Colab logo, the file name 'nome.ipynb', a star icon, and a file menu with options like File, Edit, View, Insert, Runtime, Tools, and Help. On the right side, there are sharing and collaboration options (Comment, Share, settings), a 'Connect' dropdown, and an 'Editing' toolbar with various icons. The central workspace is currently empty.

Nesse caso, o notebook foi  
renomeado com o nome  
“nome.ipynb”.

# Como renomear um Colab Notebook

Pronto!





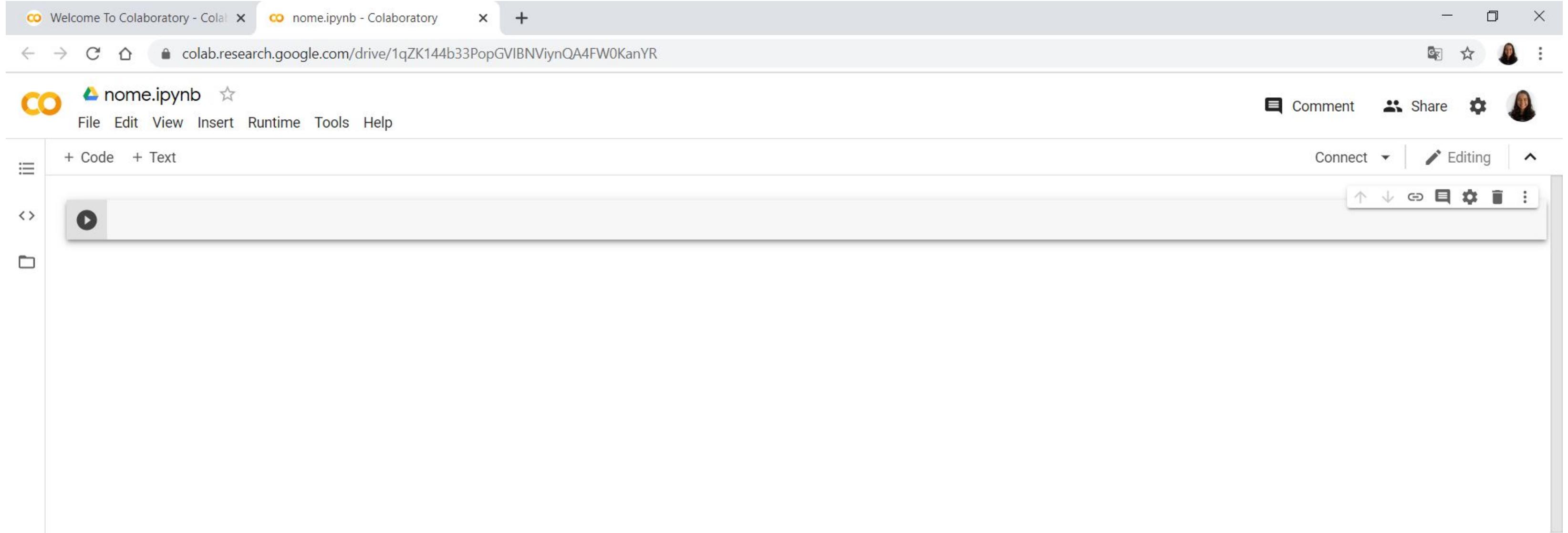
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# COMO SALVAR ALTERAÇÕES DE UM COLAB NOTEBOOK

# Como salvar alterações de um Colab Notebook

Este é um Colab Notebook com alterações



# Como salvar alterações de um Colab Notebook

Para salvar as alterações aperte CTRL + S



The screenshot shows the Google Colab interface. At the top, there are two tabs: 'Welcome To Colaboratory - Colab' and 'nome.ipynb - Colaboratory'. Below the tabs is a toolbar with icons for back, forward, search, and file operations. The main area is a notebook titled 'nome.ipynb'. The top menu bar includes 'File', 'Edit', 'View', 'Insert', 'Runtime', 'Tools', 'Help', and 'Saving...'. The bottom status bar also displays 'Saving...'. The right side of the screen has a sidebar with options like 'Comment', 'Share', and user profile.

As setas apontam  
quais locais indicam o  
processo.



# Como salvar alterações de um Colab Notebook

Pronto, todas as alterações estão salvas!



Colaboratory - Colab nome.ipynb - Colaboratory colab.research.google.com/drive/1qZK144b33PopGVIBNViynQA4FW0KanYR

File Edit View Insert Runtime Tools Help All changes saved

Comment Share

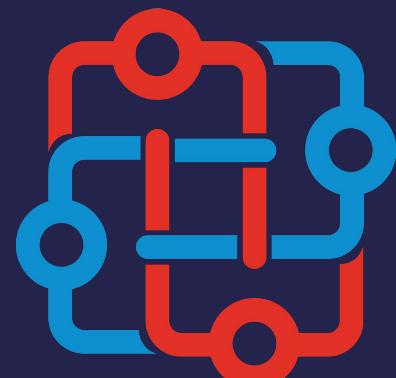
+ Code + Text

Connect Editing

As setas apontam  
quais locais indicam o  
processo.

Saved successfully!





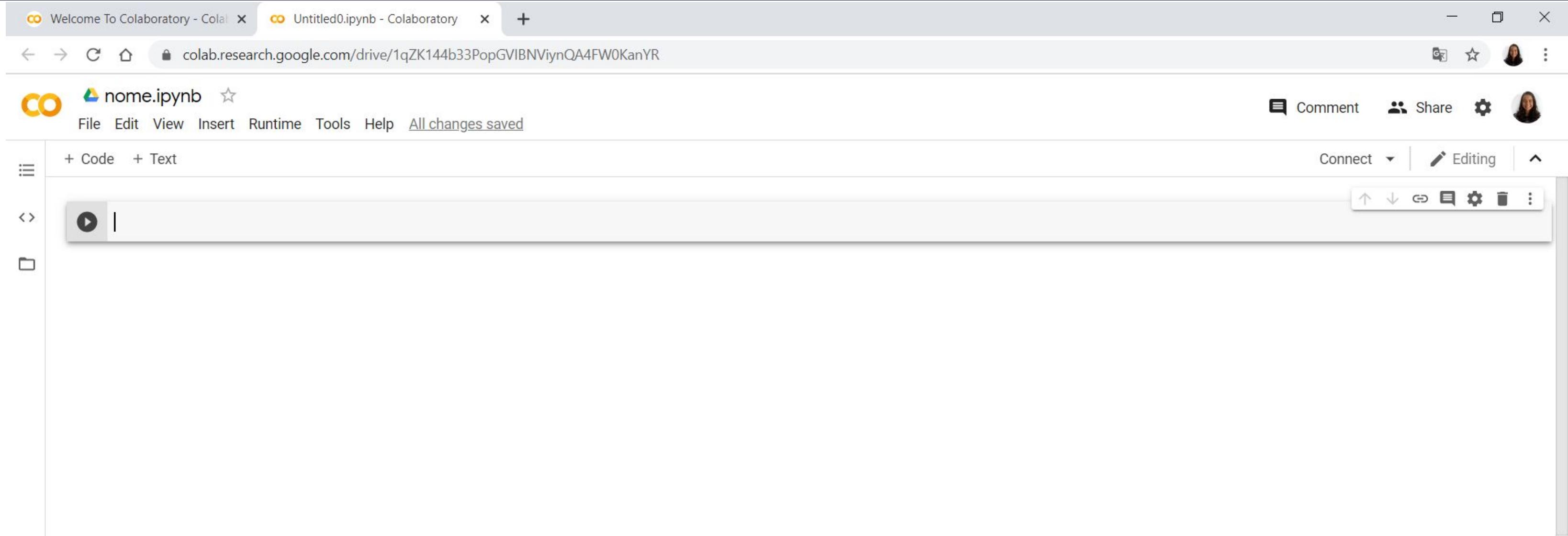
XP Lab



**TIPOS DE CÉLULAS DE UM  
COLAB NOTEBOOK**

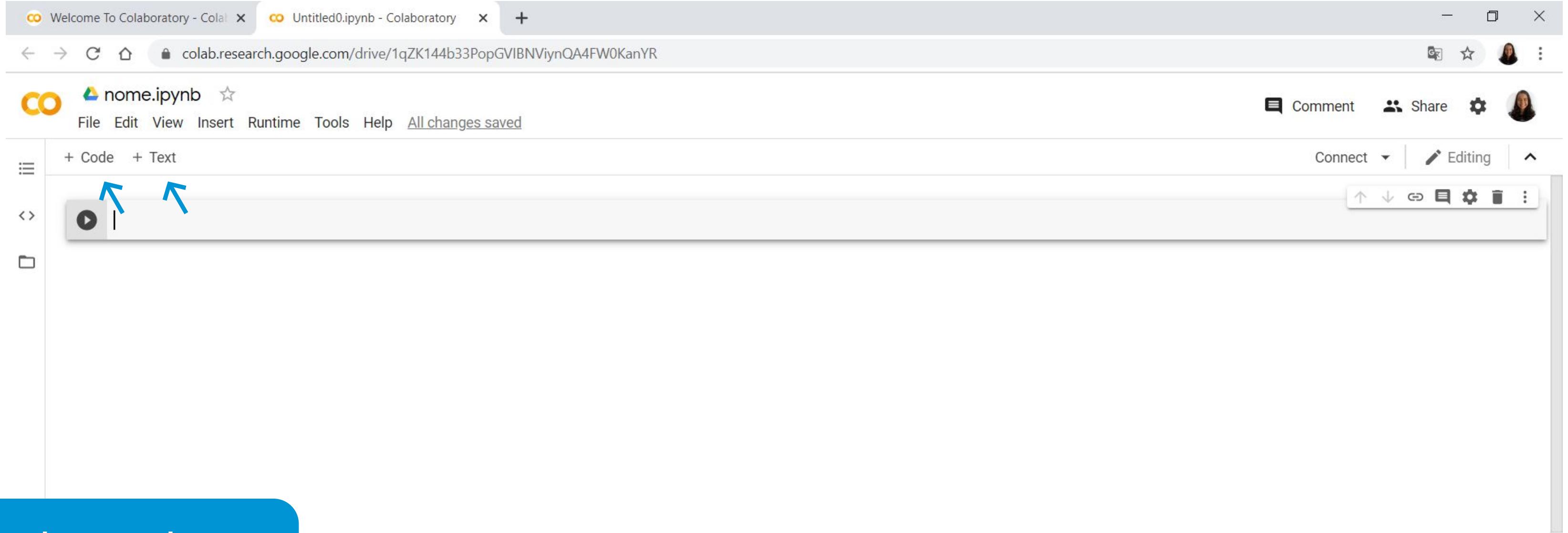
# Tipos de célula de um Colab Notebook

Este é um Colab Notebook sem alterações



## Tipos de célula de um Colab Notebook

Um Colab Notebook possui dois tipos de células



As setas apontam os tipos de células de um notebook.

# Tipos de célula de um Colab Notebook

Para criar uma célula de código clique em +Code



The screenshot shows the Google Colab interface. At the top, there are two tabs: 'Welcome To Colaboratory - Colab' and 'nome.ipynb - Colaboratory'. Below the tabs is a toolbar with icons for back, forward, search, and file operations. The main area is titled 'nome.ipynb' and shows a menu bar with 'File', 'Edit', 'View', 'Insert', 'Runtime', 'Tools', and 'Help', followed by the message 'All changes saved'. A toolbar below the menu includes 'Comment', 'Share', and profile icons. On the far left is a sidebar with a list icon, a folder icon, and a play button icon. At the bottom of the sidebar, the text '[ ]' is visible. The central workspace has a toolbar at the top with buttons for 'Connect', 'Editing', and other controls. A cursor arrow points to the '+ Code' button in the top-left corner of the workspace.

# Tipos de célula de um Colab Notebook

Para criar uma célula de texto clique em +Text



# Tipos de célula de um Colab Notebook

Para deletar uma célula clique na lixeira



A screenshot of a Google Colab notebook titled "nome.ipynb". The interface shows two code cells, each containing a single bracket character "[ ]". Below the cells is a toolbar with various editing and styling tools. In the bottom right corner of the toolbar, there is a small trash can icon, which is highlighted with a red box and a white arrow pointing to it, indicating it is the target for deletion.

# Tipos de célula de um Colab Notebook

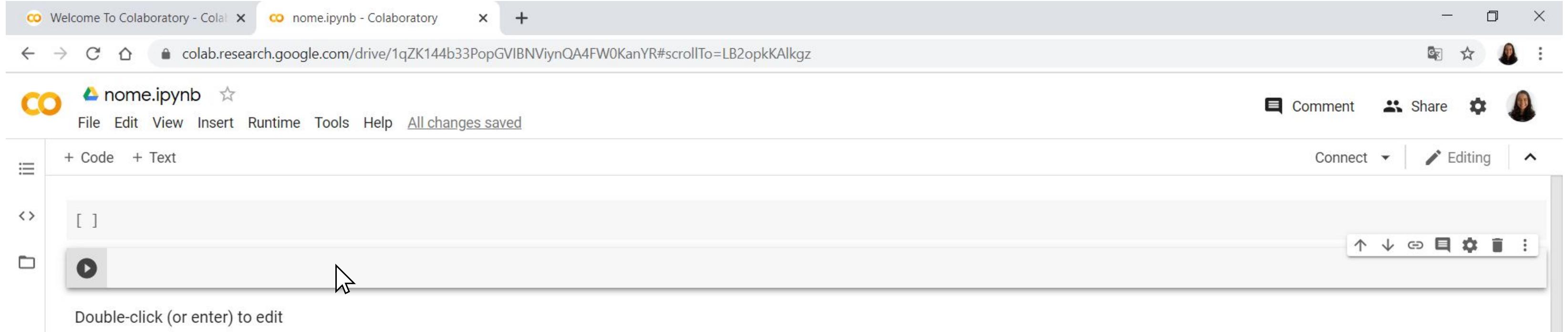
Para movimentar uma célula clique nas setas



The screenshot shows a Google Colab notebook interface. At the top, there are two tabs: 'Welcome To Colaboratory - Colab' and 'nome.ipynb - Colaboratory'. The URL is 'colab.research.google.com/drive/1qZK144b33PopGVIBNViynQA4FW0KanYR#scrollTo=LB2opkKAlkgz'. The notebook title is 'nome.ipynb'. The menu bar includes File, Edit, View, Insert, Runtime, Tools, Help, and a status message 'All changes saved'. On the right, there are 'Comment', 'Share', and profile icons. Below the menu, there are buttons for '+ Code' and '+ Text'. The main area contains two code cells, each with '[ ]' in its input field. The top cell has a toolbar with various icons, and the up arrow icon is highlighted with a red box. The bottom cell has a similar toolbar.

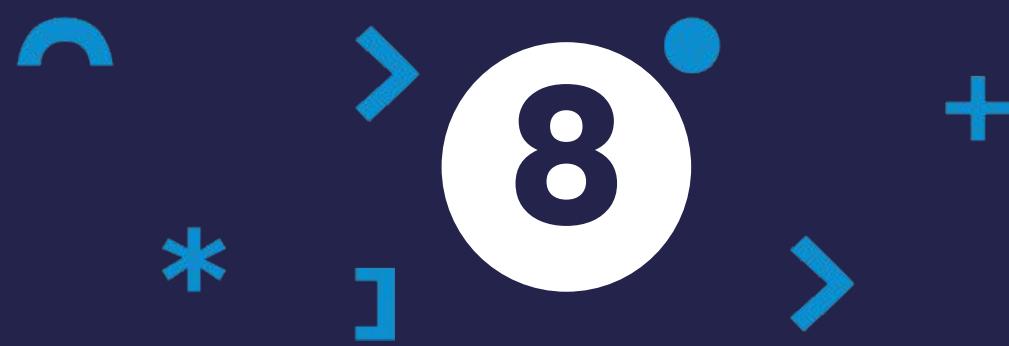
# Tipos de célula de um Colab Notebook

Para editar o código de uma célula, basta clicar nela \*



# Tipos de célula de um Colab Notebook

Para editar o texto de uma célula, duplo clique



The screenshot shows a Google Colab notebook titled "nome.ipynb". The notebook interface includes a header with tabs for "Welcome To Colaboratory - Colab" and "nome.ipynb - Colaboratory", a URL bar showing "colab.research.google.com/drive/1qZK144b33PopGVIBNViynQA4FW0KanYR#scrollTo=9idzhZqjpXB8", and user profile icons. The menu bar includes "File", "Edit", "View", "Insert", "Runtime", "Tools", and "Help", with "All changes saved" indicated. The main workspace contains two code cells, each with a "[ ]" placeholder. A tooltip at the bottom of the second cell reads "Double-click (or enter) to edit". The right side of the screen features a toolbar with icons for "Comment", "Share", "Connect", and "Editing".

# Tipos de célula de um Colab Notebook

Este é o editor de texto de uma célula de texto



The screenshot shows a Google Colab notebook titled "nome.ipynb". The interface consists of a header bar with tabs for "Welcome To Colaboratory - Colab" and "nome.ipynb - Colaboratory", a URL bar with the address "colab.research.google.com/drive/1qZK144b33PopGVIBNViynQA4FW0KanYR#scrollTo=9idzhZqjpXB8", and a toolbar with file operations like "Comment", "Share", and "Edit". The main workspace contains two code cells, each showing the placeholder "[ ]". A toolbar below the cells provides various text and code editing tools. The overall layout is clean and modern, typical of a Jupyter-like notebook environment.

# Tipos de célula de um Colab Notebook

## É possível digitar qualquer texto



Observe que do lado direito de uma célula de texto tem uma amostra do resultado da sua edição.

# Tipos de célula de um Colab Notebook

Selecione o texto e clique no B para deixar em negrito \*

The screenshot shows a Google Colab notebook interface. At the top, there are two tabs: "Welcome To Colaboratory - Colab" and "nome.ipynb - Colaboratory". The URL in the address bar is "colab.research.google.com/drive/1qZK144b33PopGVIBNViynQA4FW0KanYR#scrollTo=9idzhZqjpXB8". The notebook title is "nome.ipynb". The menu bar includes File, Edit, View, Insert, Runtime, Tools, and Help. On the right, there are Comment, Share, and profile icons. Below the menu, there are buttons for "+ Code" and "+ Text". The main area contains two code cells, each starting with "[ ]". A text cell is currently selected, showing the text "Tutorial Google Colab". The toolbar below the text cell has several icons: a text icon, a bold icon (highlighted with a red arrow), an italic icon, a link icon, a code icon, a table icon, a list icon, a more options icon, and a calendar icon. The status bar at the bottom indicates "Tutorial Google Colab".

# Tipos de célula de um Colab Notebook

Este será o resultado



The screenshot shows a Google Colab notebook interface. The title bar says 'Welcome To Colaboratory - Colab' and 'nome.ipynb - Colaboratory'. The URL is 'colab.research.google.com/drive/1qZK144b33PopGVIBNViynQA4FW0KanYR#scrollTo=9idzhZqjpXB8'. The menu bar includes File, Edit, View, Insert, Runtime, Tools, Help, and a message 'All changes saved'. The toolbar has 'Comment', 'Share', and profile icons. The main area shows two code cells, each containing '[ ]'. Below the cells is a rich text toolbar with various icons. A status bar at the bottom of the cell area says 'Tutorial Google Colab'.

# Tipos de célula de um Colab Notebook

Clique em outra célula para visualizar



Lembre-se sempre de  
salvar o seu notebook  
apertando CTRL+S.

Saving...

# Tipos de célula de um Colab Notebook

Com três # transforme seu texto em título



The screenshot shows a Google Colab notebook titled "nome.ipynb". The interface includes a top navigation bar with tabs for "Welcome To Colaboratory - Colab" and "nome.ipynb - Colaboratory". Below the tabs is a URL bar showing the path "colab.research.google.com/drive/1qZK144b33PopGVIBNViynQA4FW0KanYR#scrollTo=9idzhZqjpXB8". The main workspace contains three cells: two code cells (both showing an empty list [ ]) and one text cell. The text cell has the following content:

```
### **Tutorial Google Colab**
```

# Tipos de célula de um Colab Notebook

Com duas # o título fica maior



# Tipos de célula de um Colab Notebook

## E com apenas uma #, maior ainda



Welcome To Colaboratory - Colab x nome.ipynb - Colaboratory x +

colab.research.google.com/drive/1qZK144b33PopGVIBNViynQA4FW0KanYR#scrollTo=9idzhZqjpXB8

File Edit View Insert Runtime Tools Help Saving...

Comment Share

+ Code + Text

[ ]

[ ]

# \*\*Tutorial Google Colab\*\*

Tutorial Google Colab

# Tipos de célula de um Colab Notebook

Utilize as setas para movimentar



Welcome To Colaboratory - Colab × nome.ipynb - Colaboratory × +

colab.research.google.com/drive/1qZK144b33PopGVIBNViynQA4FW0KanYR#scrollTo=9idzhZqjpXB8

nome.ipynb

File Edit View Insert Runtime Tools Help All changes saved

+ Code + Text

Comment Share

Editing

[ ]

[ ]

Tutorial Google Colab

# Tipos de célula de um Colab Notebook

Mais uma vez, para ficar no topo



The screenshot shows a Google Colab notebook titled "nome.ipynb". The interface includes a top navigation bar with tabs for "Welcome To Colaboratory - Colab" and "nome.ipynb - Colaboratory", and a URL "colab.research.google.com/drive/1qZK144b33PopGVIBNViynQA4FW0KanYR#scrollTo=9idzhZqjpXB8". Below the navigation is a toolbar with "File", "Edit", "View", "Insert", "Runtime", "Tools", and "Help" menus, along with "Comment", "Share", and profile icons. The main workspace features a sidebar with "+ Code" and "+ Text" buttons, and a list of cells. One cell is expanded, showing the title "Tutorial Google Colab". The bottom of the screen has a toolbar with various editing and cell management icons.

# Tipos de célula de um Colab Notebook

Pronto!



>Welcome To Colaboratory - Colab x nome.ipynb - Colaboratory x +

colab.research.google.com/drive/1qZK144b33PopGVIBNViynQA4FW0KanYR#scrollTo=9idzhZqjpXB8

nome.ipynb ★

File Edit View Insert Runtime Tools Help

+ Code + Text

Comment Share

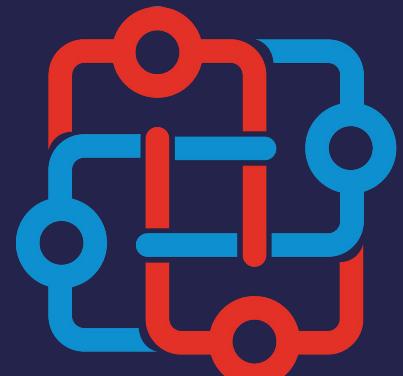
Connect | Editing

Tutorial Google Colab

[ ]

[ ]

A screenshot of a Google Colab notebook titled "Tutorial Google Colab". The notebook interface includes a top bar with tabs for "Welcome To Colaboratory - Colab" and "nome.ipynb - Colaboratory", a URL, and various icons. Below the bar is a toolbar with file operations like "File", "Edit", "View", etc., and sharing options. A sidebar on the left shows a tree view with the main folder expanded, revealing two empty code cells represented by brackets. The main workspace is currently empty.



XP Lab



**EXECUÇÃO DE UMA CÉLULA DE CÓDIGO DE UM  
COLAB NOTEBOOK**

# Execução de uma célula de código de um Colab Notebook

Este é um Colab Notebook com título no topo



The screenshot shows a Google Colab notebook titled "Tutorial Google Colab". The notebook contains two empty code cells, indicated by brackets [ ]. The interface includes a top navigation bar with tabs for "Welcome To Colaboratory - Colab" and "nome.ipynb - Colaboratory", and a URL "colab.research.google.com/drive/1qZK144b33PopGVIBNViynQA4FW0KanYR#scrollTo=9idzhZqjpXB8". The toolbar includes icons for file operations, sharing, and editing. The sidebar on the left shows a list of files, with "Tutorial Google Colab" currently selected.

# Execução de uma célula de código de um Colab Notebook

Para editar uma célula de código, basta clicar nela



The screenshot shows a Google Colab notebook titled "nome.ipynb". The interface includes a top bar with tabs for "Welcome To Colaboratory - Colab" and "nome.ipynb - Colaboratory", a URL bar showing the notebook's location, and user profile icons. The main workspace displays a code cell with a play button icon and the text "[ ]". The left sidebar shows a file tree with a single item: "Tutorial Google Colab". The right sidebar contains various notebook settings and sharing options.

# Execução de uma célula de código de um Colab Notebook

Para atribuir valores a variáveis, utilize =



```
variavel = 1
```

[ ]

Nesse caso, o número 1  
foi atribuído à variável  
nomeada “variavel”.

# Execução de uma célula de código de um Colab Notebook

Para executar o código aperte no play



The screenshot shows a Google Colab interface. At the top, there are two tabs: 'Welcome To Colaboratory - Colab' and 'nome.ipynb - Colaboratory'. The URL in the address bar is 'colab.research.google.com/drive/1qZK144b33PopGVIBNViynQA4FW0KanYR#scrollTo=9idzhZqjpXB8'. The notebook title is 'nome.ipynb'. The menu bar includes File, Edit, View, Insert, Runtime, Tools, and Help, with 'All changes saved' indicated. On the left, a sidebar shows a folder named 'Tutorial Google Colab' containing a single file. The main workspace displays a code cell with the code 'variavel = 1'. A blue arrow points to the play button icon in the toolbar for this cell. The status bar at the bottom right shows 'Allocating'.

A seta aponta o indicador de conexão do notebook que, no momento, está em processo de alocação.

# Execução de uma célula de código de um Colab Notebook

Após alocação do notebook, ele tenta se conectar



Colaboratory - Colab

nome.ipynb - Colaboratory

colab.research.google.com/drive/1qZK144b33PopGVIBNViynQA4FW0KanYR#scrollTo=9idzhZqjpXB8

File Edit View Insert Runtime Tools Help All changes saved

+ Code + Text

Comment Share

Connecting

Tutorial Google Colab

```
variavel = 1
```

[ ]

# Execução de uma célula de código de um Colab Notebook

Inicializa...



Colaboratory - Colab

nome.ipynb - Colaboratory

colab.research.google.com/drive/1qZK144b33PopGVIBNViynQA4FW0KanYR#scrollTo=9idzhZqjpXB8

File Edit View Insert Runtime Tools Help All changes saved

Comment Share

Initializing | Editing

+ Code + Text

Tutorial Google Colab

variavel = 1

[ ]

# Execução de uma célula de código de um Colab Notebook

...e se conecta!



A screenshot of a Google Colab notebook titled "nome.ipynb". The notebook contains a single cell with the code "variavel = 1". The output of the cell is shown as two empty brackets: "[ ]". The status bar at the top right indicates that the notebook is "Connected". A blue arrow points upwards from the bottom right towards the "Connected" status bar.

# Execução de uma célula de código de um Colab Notebook

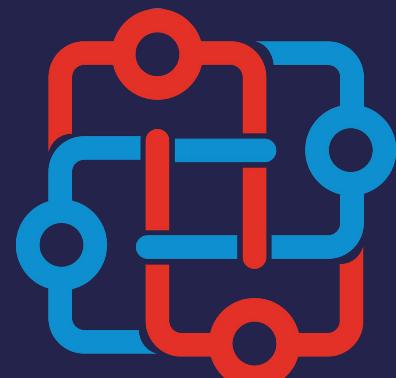
Por fim a execução termina!



A screenshot of a Google Colab notebook titled "Tutorial Google Colab". The notebook interface includes a menu bar with File, Edit, View, Insert, Runtime, Tools, and Help. On the left, there's a sidebar with "+ Code" and "+ Text" buttons. The main area shows a code cell with the command `variavel = 1`. At the bottom right of the screen, there is a status bar with a green checkmark next to "RAM". A blue arrow points upwards from the bottom right towards this status bar.

A seta aponta o estado de quando o notebook está devidamente conectado.

A conexão não ocorre toda vez que uma célula é executada, apenas quando o notebook precisa se conectar para funcionar normalmente.



XP Lab



**ORDEM DE EXECUÇÃO DE UM  
COLAB NOTEBOOK**

# Ordem de execução de um Colab Notebook

Este é um Colab Notebook conectado



The screenshot shows a Google Colab notebook titled "nome.ipynb". The code cell contains the following Python code:

```
variavel = 1
```

The output of the cell is currently empty, showing only the brackets "[ ]". The notebook interface includes a toolbar with various icons, a file menu with options like File, Edit, View, Insert, Runtime, Tools, and Help, and a sidebar for managing files and notebooks.

# Ordem de execução de um Colab Notebook

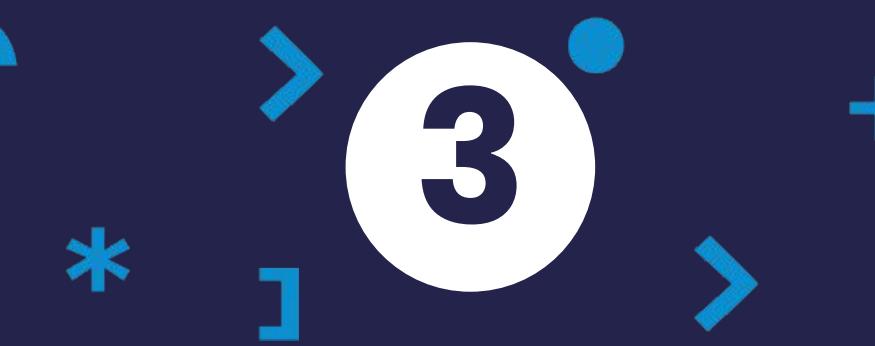
Algumas novas células de código serão criadas...



The screenshot shows a Google Colab notebook interface. The title bar has two tabs: 'Welcome To Colaboratory - Colab' and 'nome.ipynb - Colaboratory'. The URL is 'colab.research.google.com/drive/1qZK144b33PopGVIBNViynQA4FW0KanYR#scrollTo=9idzhZqjpXB8'. The menu bar includes File, Edit, View, Insert, Runtime, Tools, and Help, with 'All changes saved' indicated. The toolbar on the right shows 'Comment', 'Share', 'Settings', and a user profile. The sidebar on the left shows '+ Code' and '+ Text' buttons, and a folder icon with 'Tutorial Google Colab' expanded. The main area contains a code cell with the output '[1] variavel = 1' and a play button.

# Ordem de execução de um Colab Notebook

...para auxiliar a explicação de ordem de execução



```
[1] variavel = 1
variavel = 2
```

# Ordem de execução de um Colab Notebook

## Verifique a numeração indicada à esquerda



```
[1] variavel = 1
[2] variavel = 2
variavel
```

Uma vez que as variáveis criadas sejam executadas, o Google Colab já as reconhece e oferece um autocomplete.

# Ordem de execução de um Colab Notebook

Essa numeração é a ordem de execução



Colaboratory - Colab

nome.ipynb - Colaboratory

colab.research.google.com/drive/1qZK144b33PopGVIBNViynQA4FW0KanYR#scrollTo=6Jvig31UrMKE

File Edit View Insert Runtime Tools Help

Comment Share

RAM Disk

Editing

Tutorial Google Colab

```
[1]: variavel = 1
[2]: variavel = 2
variavel
2
```

O local de output de uma célula (quando houver), é logo abaixo da célula em questão. Nesse caso, o valor é 2.

# Ordem de execução de um Colab Notebook

Execute novamente a primeira célula



```
variavel = 1
[2] variavel = 2

[3] variavel
[4] 2
```

# Ordem de execução de um Colab Notebook

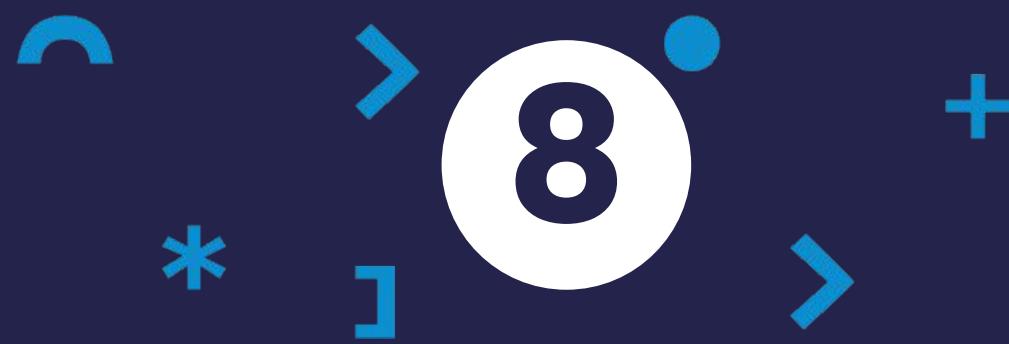
Aguarde a execução



```
variavel = 1
[2] variavel = 2
[3] variavel
[4] 2
```

# Ordem de execução de um Colab Notebook

## Observe a ordem de execução



```
[4] variavel = 1
[2] variavel = 2
[3] variavel
[1] 2
```

Uma nova célula (ainda não executada) foi criada para facilitar a visualização da ordem de execução.

# Ordem de execução de um Colab Notebook

Execute agora a última célula novamente



The screenshot shows a Google Colab notebook interface. The title bar indicates the file is named "nome.ipynb". The menu bar includes File, Edit, View, Insert, Runtime, Tools, and Help, with "All changes saved" highlighted. The toolbar on the right shows RAM and Disk usage, and an "Editing" mode switch. The sidebar shows a folder named "Tutorial Google Colab" which is expanded. The main area displays two code cells. The first cell, indexed [4], contains the code "variavel = 1" and has an empty output cell below it. The second cell, indexed [2], contains the code "variavel = 2" and has an output cell showing the value "2". The toolbar for the second cell includes a play button, copy, cut, and delete icons.

# Ordem de execução de um Colab Notebook

Qual será o valor do output?



The screenshot shows a Google Colab notebook interface. The title bar has two tabs: 'Welcome To Colaboratory - Colab' and 'nome.ipynb - Colaboratory'. The URL is 'colab.research.google.com/drive/1qZK144b33PopGVIBNViynQA4FW0KanYR#scrollTo=Gtd8CG1ykxpw'. The menu bar includes File, Edit, View, Insert, Runtime, Tools, and Help. On the right, there are Comment, Share, and profile icons. The sidebar shows a file tree with a single folder named 'Tutorial Google Colab'. The main workspace contains the following code cells:

```
[4] variavel = 1
[ ]
[2] variavel = 2
variavel
...
```

The 'variavel' cell is currently selected, indicated by a play button icon.

# Ordem de execução de um Colab Notebook

## O output é 1



```
[4] variavel = 1
[ ]
[2] variavel = 2
▶ variavel
⇒ 1
```

Isso acontece porque a última célula executada foi a primeira célula, em que o valor atribuído à variável é 1.

# Ordem de execução de um Colab Notebook

## Observe a ordem de execução



```
[4] variavel = 1
[2] variavel = 2
[5] variavel
[1] variavel
```

Apague a célula ainda não executada nem utilizada.

E se eu quiser executar todas as células de uma vez só?

# Ordem de execução de um Colab Notebook

Para executar todas as células de uma vez...



The screenshot shows a Google Colab notebook interface. The title bar indicates the file is named "nome.ipynb". The menu bar includes File, Edit, View, Insert, Runtime, Tools, and Help, with "All changes saved" highlighted. The toolbar on the right provides options for Comment, Share, and settings, along with RAM and Disk status indicators. The sidebar shows a folder structure with "Tutorial Google Colab" expanded. The main workspace displays four code cells:

- [4] variavel = 1
- [2] variavel = 2
- [5] variavel
- Cell output: 1

# Ordem de execução de um Colab Notebook

...clique em Runtime no canto superior esquerdo



Welcome To Colaboratory - Colab x nome.ipynb - Colaboratory x +

colab.research.google.com/drive/1qZK144b33PopGVIBNViynQA4FW0KanYR#scrollTo=9idzhZqjpXB8

File Edit View Insert **Runtime** Tools Help All changes saved

+ Code + Text

Comment Share

RAM Disk Editing

Tutorial Google Colab

```
[4]: variavel = 1
[2]: variavel = 2
[5]: variavel
1
```

# Ordem de execução de um Colab Notebook

Depois clique em Run all



The screenshot shows a Google Colab notebook titled "nome.ipynb". The left sidebar displays code cells with outputs. The top navigation bar includes tabs for "Welcome To Colaboratory - Colab" and "nome.ipynb - Colaboratory". The main menu bar has "File", "Edit", "View", "Insert", "Runtime" (which is currently active), "Tools", and "Help". A tooltip "All changes saved" is visible near the "Help" menu. The "Runtime" dropdown menu is open, showing options: "Run all" (selected, highlighted in grey), "Run before", "Run the focused cell", "Run selection", "Run after", "Interrupt execution", "Restart runtime...", "Restart and run all...", "Factory reset runtime", "Change runtime type", "Manage sessions", and "View runtime logs". The "Run all" option is associated with the keyboard shortcut "Ctrl+F9". The right side of the interface shows a toolbar with icons for Comment, Share, and profile, along with memory usage indicators for RAM and Disk.

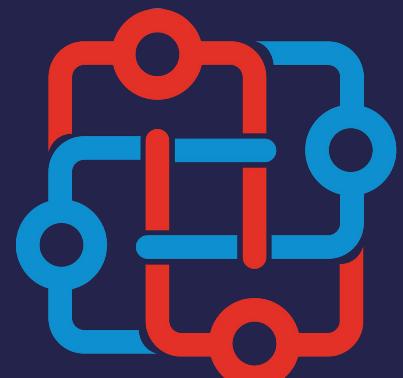
# Ordem de execução de um Colab Notebook

Observe a ordem de execução e pronto!



```
[6] variavel = 1
[7] variavel = 2
[8] variavel
2
```

Observe também que a ordem de execução foi sequencial de cima para baixo.



XP Lab



REINICIARA ORDEM DE EXECUÇÃO DE UM  
**COLAB NOTEBOOK**

# Reiniciar a ordem de execução de um Colab Notebook

Este é um Colab Notebook executado



>Welcome To Colaboratory - Colab x nome.ipynb - Colaboratory x +

colab.research.google.com/drive/1qZK144b33PopGVIBNViynQA4FW0KanYR#scrollTo=9idzhZqjpXB8

nome.ipynb ★

File Edit View Insert Runtime Tools Help

+ Code + Text

Comment Share

RAM Disk Editing

Tutorial Google Colab

```
[6] variavel = 1
[7] variavel = 2
[8] variavel
2
```

# Reiniciar a ordem de execução de um Colab Notebook

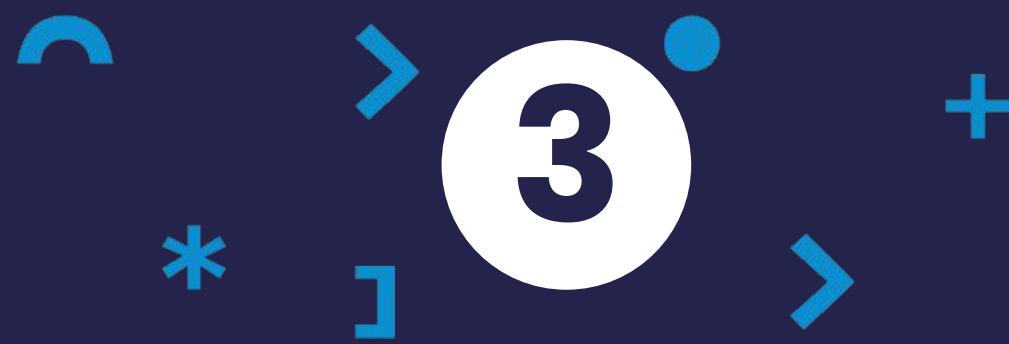
Para reiniciar a ordem de execução...



```
[6] variavel = 1
[7] variavel = 2
[8] variavel
2
```

# Reiniciar a ordem de execução de um Colab Notebook

...clique em Runtime no canto superior esquerdo



The screenshot shows a Google Colab interface. At the top, there are two tabs: "Welcome To Colaboratory - Colab" and "nome.ipynb - Colaboratory". The URL in the address bar is "colab.research.google.com/drive/1qZK144b33PopGVIBNViynQA4FW0KanYR#scrollTo=9idzhZqjpXB8". The main menu bar includes File, Edit, View, Insert, **Runtime**, Tools, and Help, with "All changes saved" noted. On the left, a sidebar shows a folder structure with "Tutorial Google Colab" expanded. The main workspace displays a code cell history:

```
[4] variavel = 1
[2] variavel = 2
[5] variavel
1
```

# Reiniciar a ordem de execução de um Colab Notebook

Depois clique em Restart runtime...



The screenshot shows a Google Colab notebook titled "nome.ipynb". The left sidebar displays code cells with outputs. The top navigation bar includes tabs for "Welcome To Colaboratory - Colab" and "nome.ipynb - Colaboratory". The main menu bar has "Runtime" selected, which is currently highlighted. A dropdown menu for "Runtime" is open, listing various options: 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 ., currently selected), Restart and run all..., Factory reset runtime, Change runtime type, Manage sessions, and View runtime logs.

# Reiniciar a ordem de execução de um Colab Notebook

Vai aparecer uma mensagem de confirmação



Welcome To Colaboratory - Colab × nome.ipynb - Colaboratory × +

colab.research.google.com/drive/1qZK144b33PopGVIBNViynQA4FW0KanYR#scrollTo=9idzhZqjpXB8

nome.ipynb ★

File Edit View Insert Runtime Tools Help All changes saved

+ Code + Text

Comment Share

RAM Disk Editing

Tutorial Google Colab

```
[6] variavel = 1
[7] variavel = 2
[8] variavel
[9] 2
```

**Restart runtime**

Are you sure you want to restart the runtime? Runtime state including all local variables will be lost.

CANCEL YES

## Reiniciar a ordem de execução de um Colab Notebook

Observe que a numeração desaparece



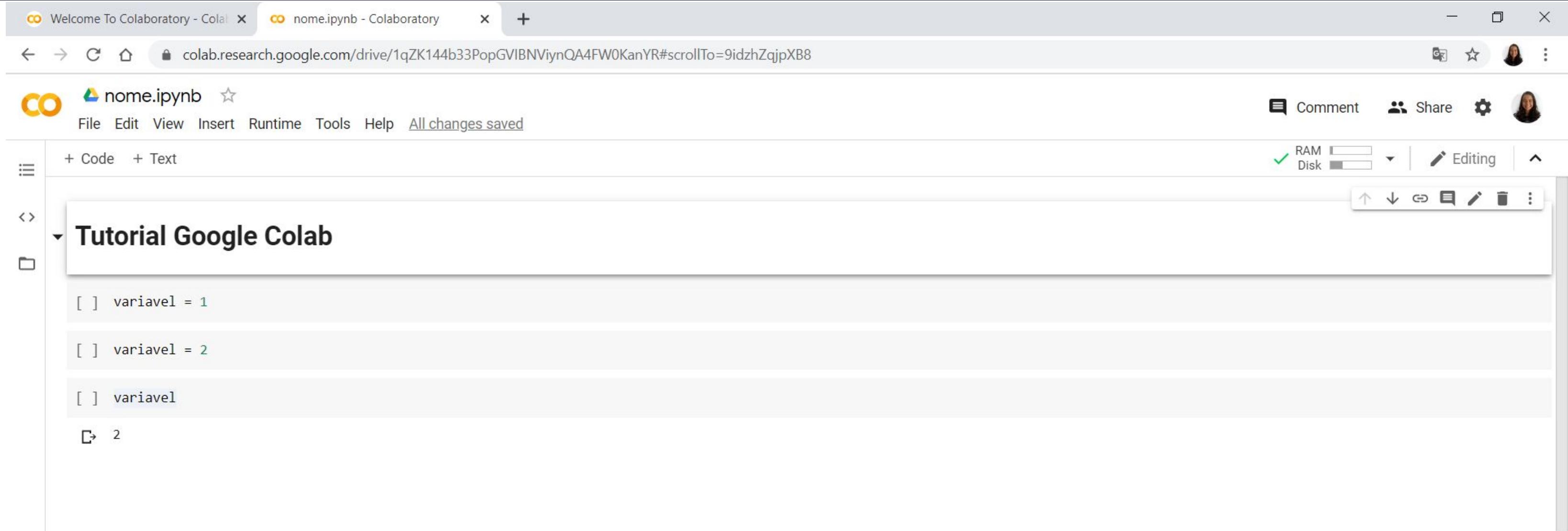
The screenshot shows a Google Colab notebook interface. The title bar indicates the file is named 'nome.ipynb'. The menu bar includes File, Edit, View, Insert, Runtime, Tools, and Help, with 'All changes saved' highlighted. The toolbar on the right shows a status of 'Restarting' with a progress bar. A blue arrow points upwards from the bottom right towards the status bar. The main workspace contains a single code cell with the following content:

```
[ ] variavel = 1
[ ] variavel = 2
[ ] variavel
[ ] 2
```

Verifique sempre a conexão do seu notebook.

## Reiniciar a ordem de execução de um Colab Notebook

Também é possível reiniciar e executar tudo

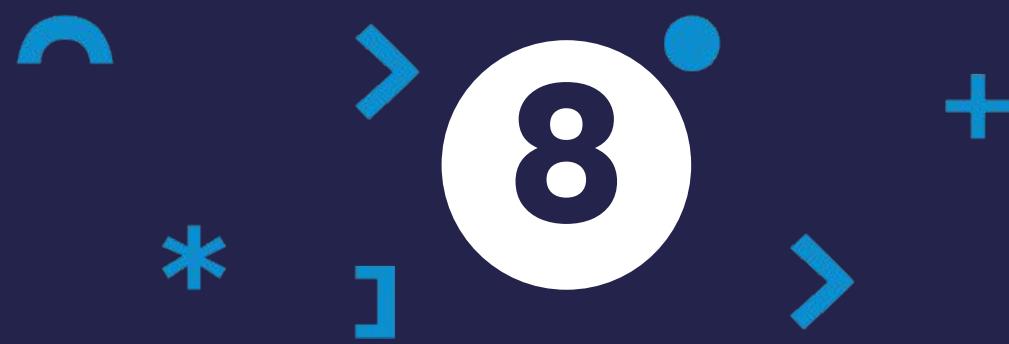


The screenshot shows a Google Colab notebook interface. The title bar indicates the file is named "nome.ipynb". The menu bar includes File, Edit, View, Insert, Runtime, Tools, and Help, with "All changes saved" highlighted. The toolbar on the right provides options for Comment, Share, and settings, along with RAM and Disk status indicators. The main workspace displays a section titled "Tutorial Google Colab" containing the following code and output:

```
[ ] variavel = 1
[ ] variavel = 2
[ ] variavel
[ ] 2
```

# Reiniciar a ordem de execução de um Colab Notebook

Para isso, clique em Runtime novamente



The screenshot shows a Google Colab interface. At the top, there are two tabs: "Welcome To Colaboratory - Colab" and "nome.ipynb - Colaboratory". The URL in the address bar is "colab.research.google.com/drive/1qZK144b33PopGVIBNViynQA4FW0KanYR#scrollTo=9idzhZqjpXB8". The main area shows a notebook titled "Tutorial Google Colab". The "Runtime" menu is open, with the "File", "Edit", "View", "Insert", "Tools", and "Help" options visible above it. The "Runtime" option is highlighted with a mouse cursor. Below the menu, there are buttons for "+ Code" and "+ Text". The notebook content includes four code cells: cell [4] contains "variavel = 1"; cell [2] contains "variavel = 2"; cell [5] contains "variavel"; and a result cell below it shows the output "1". On the right side of the interface, there are sharing and collaboration options, including "Comment", "Share", and a user profile icon. A sidebar on the left shows a file tree with the "Tutorial Google Colab" folder expanded.

# Reiniciar a ordem de execução de um Colab Notebook

Depois clique em Restart and run all...



The screenshot shows a Google Colab notebook titled "nome.ipynb". The "Runtime" menu is open, displaying various options: 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...** (highlighted with a cursor), Factory reset runtime, Change runtime type, Manage sessions, and View runtime logs.

# Reiniciar a ordem de execução de um Colab Notebook

Aguarde a execução



The screenshot shows a Google Colab notebook interface. The title bar has two tabs: "Welcome To Colaboratory - Colab" and "nome.ipynb - Colaboratory". The URL is "colab.research.google.com/drive/1qZK144b33PopGVIBNViynQA4FW0KanYR#scrollTo=9idzhZqjpXB8". The toolbar includes standard browser controls and a sidebar with "File", "Edit", "View", "Insert", "Runtime", "Tools", and "Help" menus, along with "Comment", "Share", and profile icons. The main area displays a notebook titled "Tutorial Google Colab" containing three code cells, each with a play icon and the text "variavel". The sidebar also shows "RAM" and "Disk" usage sliders.

# Reiniciar a ordem de execução de um Colab Notebook

Pronto!



>Welcome To Colaboratory - Colab x nome.ipynb - Colaboratory x +

colab.research.google.com/drive/1qZK144b33PopGVIBNViynQA4FW0KanYR#scrollTo=9idzhZqjpXB8

nome.ipynb ★

File Edit View Insert Runtime Tools Help

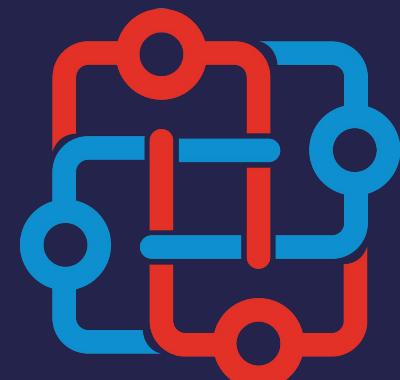
+ Code + Text

Comment Share

RAM Disk Editing

Tutorial Google Colab

```
[1] variavel = 1
[2] variavel = 2
[3] variavel
2
```



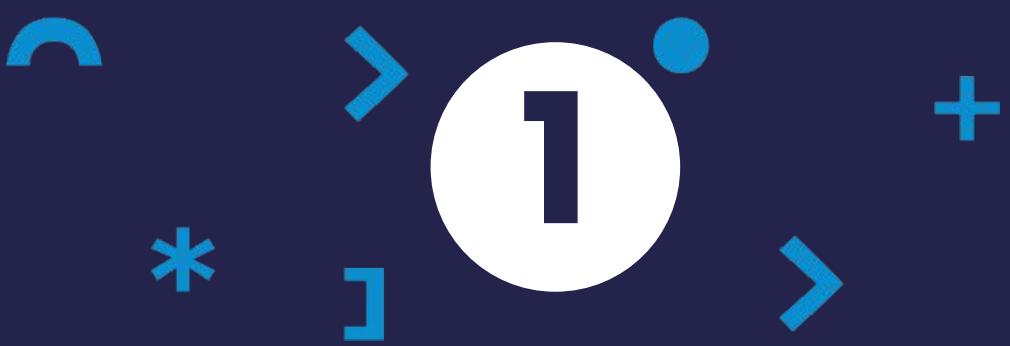
XP Lab



OPERAÇÕES COM CÉLULAS DE UM  
**COLAB NOTEBOOK**

# Operações com células de um Colab Notebook

Este é um Colab Notebook reiniciado e executado



The screenshot shows a Google Colab notebook interface. The title bar indicates the file is named "nome.ipynb". The menu bar includes File, Edit, View, Insert, Runtime, Tools, and Help. The toolbar on the right shows "Comment", "Share", and "Edit" options, along with memory allocation sliders for "RAM" and "Disk". The sidebar on the left shows a folder structure with a single item named "Tutorial Google Colab" expanded. The main workspace displays the following Python code and its execution results:

```
[1] variavel = 1
[2] variavel = 2
[3] variavel
2
```

# Operações com células de um Colab Notebook

Para selecionar células, clique em Edit



The screenshot shows a Google Colab notebook interface. At the top, there are two tabs: "Welcome To Colaboratory - Colab" and "nome.ipynb - Colaboratory". The URL in the address bar is "colab.research.google.com/drive/1qZK144b33PopGVIBNViynQA4FW0KanYR#scrollTo=9idzhZqjpXB8". The main menu bar includes File, Edit (which is highlighted with a red box and has a cursor arrow pointing to it), View, Insert, Runtime, Tools, and Help. A message "All changes saved" is displayed. On the right side, there are "Comment", "Share", and "Settings" buttons, along with RAM and Disk status indicators. The notebook content area shows a section titled "Tutorial Google Colab" with four code cells:

```
[1] variavel = 1
[2] variavel = 2
[3] variavel
[4] 2
```

# Operações com células de um Colab Notebook

Depois clique em Select all cells



The screenshot shows the Google Colab interface. At the top, there are two tabs: 'Welcome To Colaboratory - Colab' and 'nome.ipynb - Colaboratory'. Below the tabs is a toolbar with icons for back, forward, search, and file operations. The main area is titled 'nome.ipynb' and shows three code cells numbered [1], [2], and [3]. On the left, there's a sidebar with a file tree. A context menu is open over the first cell, with 'Edit' selected. The 'Edit' menu is expanded, showing options: Undo delete 1 cells (Ctrl+M Z), Redo (Ctrl+Shift+Y), Select all cells (Ctrl+Shift+A, highlighted with a cursor icon), Cut selection, Copy selection, Paste, Delete selected cells (Ctrl+M D), Find and replace... (Ctrl+H), Find next (Ctrl+G), Find previous (Ctrl+Shift+G), Notebook settings, Show/hide code, and Clear all outputs.

# Operações com células de um Colab Notebook

Todas as células serão selecionadas



```
[1] variavel = 1
[2] variavel = 2
[3] variavel
2
```

# Operações com células de um Colab Notebook

Para copiá-las, clique em Edit novamente



The screenshot shows a Google Colab notebook interface. At the top, there are two tabs: "Welcome To Colaboratory - Colab" and "nome.ipynb - Colaboratory". The URL in the address bar is "colab.research.google.com/drive/1qZK144b33PopGVIBNViynQA4FW0KanYR#scrollTo=9idzhZqjpXB8". The notebook title is "Tutorial Google Colab". The menu bar includes "File", "Edit" (which is currently selected), "View", "Insert", "Runtime", "Tools", and "Help". A status message "All changes saved" is displayed. The main area contains four code cells:

```
[1] variavel = 1
[2] variavel = 2
[3] variavel
[4] 2
```

# Operações com células de um Colab Notebook

Depois clique em Copy selection



The screenshot shows a Google Colab interface. The title bar says 'Welcome To Colaboratory - Colab' and 'nome.ipynb - Colaboratory'. The URL is 'colab.research.google.com/drive/1qZK144b33PopGVIBNViynQA4FW0KanYR#scrollTo=9idzhZqjpXB8'. The notebook has three cells: [1] contains 'Tu'; [2] is empty; [3] is empty. The context menu for cell [1] is open, showing options: Undo delete 1 cells (Ctrl+M Z), Redo (Ctrl+Shift+Y), Select all cells (Ctrl+Shift+A), Cut selection, Copy selection (highlighted with a cursor), Paste, Delete selected cells (Ctrl+M D), Find and replace... (Ctrl+H), Find next (Ctrl+G), Find previous (Ctrl+Shift+G), Notebook settings, Show/hide code, and Clear all outputs.

# Operações com células de um Colab Notebook

Todas as células selecionadas foram copiadas



A seta aponta a mensagem que indica quantas células foram selecionadas e que elas podem ser coladas neste notebook ou em um notebook diferente.



Copied 4 cells. You can now paste them in this or a different notebook. X

# Operações com células de um Colab Notebook

Para colar as células, clique em Edit mais uma vez



The screenshot shows a Google Colab notebook interface. The title bar has two tabs: "Welcome To Colaboratory - Colab" and "nome.ipynb - Colaboratory". The URL is "colab.research.google.com/drive/1qZK144b33PopGVIBNViynQA4FW0KanYR#scrollTo=9idzhZqjpXB8". The toolbar includes standard browser controls (back, forward, search) and a file navigation section. The main area shows a notebook titled "Tutorial Google Colab". The "Edit" menu is currently selected, indicated by a grey background. Below the title, there are buttons for "+ Code" and "+ Text". The notebook content consists of four cells:

- [1] variavel = 1
- [2] variavel = 2
- [3] variavel
- 2

The last cell shows the result of the previous assignment. On the right side of the interface, there are sharing and settings options, along with a sidebar for managing files and a vertical scroll bar.

# Operações com células de um Colab Notebook

Depois clique em Paste



A screenshot of a Google Colab notebook titled "nome.ipynb". The "Edit" menu is open, showing various options like Undo, Redo, Select all cells, Cut selection, Copy selection, Paste, Delete selected cells, Find and replace..., Find next, Find previous, Notebook settings, Show/hide code, and Clear all outputs. The "Paste" option is highlighted with a mouse cursor. The notebook interface includes a sidebar with cell numbers [1], [2], [3], and a toolbar with Comment, Share, and other settings.

# Operações com células de um Colab Notebook

Não vai funcionar, mas aparecerá uma mensagem



A seta aponta a  
mensagem que indica  
que para colar as células,  
simplesmente aperte  
CTRL + V.



Use Ctrl +V to paste cell contents

# Operações com células de um Colab Notebook

Então, para colar as células, aperte CTRL+V



The screenshot shows a Google Colab notebook titled "nome.ipynb". The notebook has two sections, both titled "Tutorial Google Colab". Each section contains three code cells. The first cell in each section defines a variable "variavel" with the value 1. The second cell defines it with the value 2. The third cell prints the value of "variavel", which is 2. The notebook interface includes a top bar with tabs for "Welcome To Colaboratory - Colab" and "nome.ipynb - Colaboratory", a URL bar, and a sidebar with file management and sharing options.

```
[1] variavel = 1
[2] variavel = 2
[3] variavel
↳ 2
```

```
[ ] variavel = 1
[ ] variavel = 2
[ ] variavel
↳ 2
```

This part of the screenshot shows the same Google Colab notebook with two sections. The bottom section is highlighted with a white background and a black border. It contains three code cells: one defining "variavel" as 1, one defining it as 2, and one printing its value, which is 2. The top section is visible above it.

```
[ ] variavel = 1
[ ] variavel = 2
[ ] variavel
↳ 2
```

# Operações com células de um Colab Notebook

Selecionar as células com o mouse não funcionará



The screenshot shows a Google Colab notebook interface. The title bar indicates the file is named "nome.ipynb". The menu bar includes File, Edit, View, Insert, Runtime, Tools, and Help, with "All changes saved" highlighted. The toolbar on the right shows "Comment", "Share", and "Editing" options, along with RAM and Disk usage indicators. The sidebar on the left shows a tree view with two sections: "Tutorial Google Colab" and another "Tutorial Google Colab" section. The main workspace displays two sets of code cells. The first set, under the top section, shows the assignment of a variable and its printing. The second set, under the bottom section, shows the same operations. The bottom section is currently selected, indicated by a blue background.

```
[1] variavel = 1
[2] variavel = 2
[3] variavel
↳ 2
```

```
[1] variavel = 1
[2] variavel = 2
[3] variavel
↳ 2
```

Outra operação bem legal  
é limpar os outputs.

# Operações com células de um Colab Notebook

Para limpar os outputs, clique em Edit outra vez



The screenshot shows a Google Colab notebook titled "nome.ipynb". The top navigation bar includes tabs for "Welcome To Colaboratory - Colab" and "nome.ipynb - Colaboratory". The URL is "colab.research.google.com/drive/1qZK144b33PopGVIBNViynQA4FW0KanYR#scrollTo=yA9M-Li-tQ8d". The toolbar includes icons for file operations, sharing, and settings. The main area displays two sections: "Tutorial Google Colab" and another "Tutorial Google Colab". Each section contains three code cells. The first cell in both sections has the output "[1] variavel = 1". The second cell has "[2] variavel = 2". The third cell has "[3] variavel" followed by a small icon indicating it's expandable. A cursor arrow points to the "Edit" button in the top menu bar.

```
[1] variavel = 1
```

```
[2] variavel = 2
```

```
[3] variavel
```

```
↳ 2
```



```
▼ Tutorial Google Colab
```

```
[ ] variavel = 1
```

```
[ ] variavel = 2
```

```
[ ] variavel
```

```
↳ 2
```

# Operações com células de um Colab Notebook

Depois clique em Clear all outputs



The screenshot shows a Google Colab notebook interface. The title bar indicates the file is named 'nome.ipynb'. The 'Edit' menu is open, with the 'Clear all outputs' option highlighted. The main workspace displays two code cells. The first cell contains the assignment 'variavel = 2', and its output is '2'. The second cell contains the variable name 'variavel'.

Lembrando que esta  
operação vai limpar  
TODOS os outputs.

# Operações com células de um Colab Notebook

Observe que os outputs desapareceram



```
[1] variavel = 1
[2] variavel = 2
[3] variavel
```

```
[ ] variavel = 1
[ ] variavel = 2
[ ] variavel
```

Apague as células duplicadas.

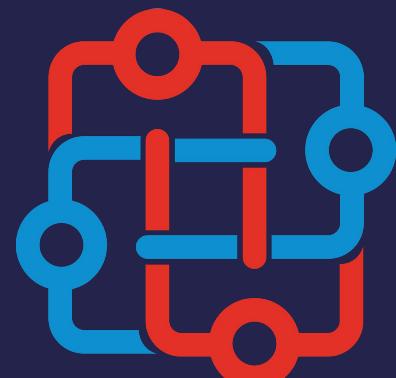
# Operações com células de um Colab Notebook

Pronto!



The screenshot shows a Google Colab notebook interface. The title bar indicates the file is named "nome.ipynb". The menu bar includes File, Edit, View, Insert, Runtime, Tools, and Help. The toolbar on the right provides options for Comment, Share, and settings, along with RAM and Disk usage indicators. The main workspace displays a section titled "Tutorial Google Colab" containing three code cells. The first cell shows the output of `variavel = 1` and `variavel = 2`. The third cell has the input `variavel` followed by a play button icon, indicating it is ready to be run. A toolbar with various icons is visible at the bottom of the workspace.

```
[1] variavel = 1
[2] variavel = 2
[3] variavel
```



XP Lab



EXTRAIR UM

COLAB NOTEBOOK

## Extrair um Colab Notebook

Este é um Colab Notebook para ser extraído

The screenshot shows a Google Colab notebook interface. The title bar indicates the file is named "nome.ipynb". The main content area displays the following code execution results:

```
[1] variavel = 1
[2] variavel = 2
[3] variavel
```

The sidebar on the left shows a section titled "Tutorial Google Colab". The top right corner features a circular icon with the number "1" and a blue navigation bar with various icons.

## Extrair um Colab Notebook

Para extrair um Colab Notebook, clique em File



The screenshot shows a Google Colab notebook titled "Tutorial Google Colab". The notebook contains the following code:

```
[1] variavel = 1
[2] variavel = 2
▶ variavel
```

The "File" menu option is highlighted with a mouse cursor. The top navigation bar shows two tabs: "Welcome To Colaboratory - Colab" and "nome.ipynb - Colaboratory". The URL in the address bar is `colab.research.google.com/drive/1qZK144b33PopGVIBNViynQA4FW0KanYR#scrollTo=6Jvig31UrMKE`. The right sidebar includes options for Comment, Share, RAM/Disk settings, and a toolbar with various icons.

# Extrair um Colab Notebook

Depois clique em Download .ipynb



The screenshot shows a Google Colaboratory interface. At the top, there are two tabs: 'Welcome To Colaboratory - Colab' and 'nome.ipynb - Colaboratory'. The URL in the address bar is 'colab.research.google.com/drive/1qZK144b33PopGVIBNViynQA4FW0KanYR#scrollTo=6Jvig31UrMKE'. On the right side, there are icons for Comment, Share, and profile. Below the tabs, the title 'nome.ipynb' is displayed. The 'File' menu is open, showing various options: 'Locate in Drive', 'Open in playground mode', 'New 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' (which has a cursor icon over it), 'Download .py', 'Update Drive preview', and 'Print'. The 'Download .ipynb' option is highlighted with a gray background.

# Extrair um Colab Notebook

Aguarde o download...



Colaboratory - Colab nome.ipynb - Colaboratory

colab.research.google.com/drive/1qZK144b33PopGVIBNViynQA4FW0KanYR#scrollTo=6Jvig31UrMKE

nome.ipynb

File Edit View Insert Runtime Tools Help All changes saved

+ Code + Text

Comment Share

RAM Disk Editing

Tutorial Google Colab

```
[1] variavel = 1
[2] variavel = 2
▶ variavel
```

Exibir todos

bemol

## Extrair um Colab Notebook

# Notebook extraído em seu formato íntegro .ipynb



The screenshot shows a Google Colab notebook interface. The title bar says "Welcome To Colaboratory - Colab" and "nome.ipynb - Colaboratory". The URL is "colab.research.google.com/drive/1qZK144b33PopGVIBNViynQA4FW0KanYR#scrollTo=6Jvig31UrMKE". The menu bar includes File, Edit, View, Insert, Runtime, Tools, Help, and a message "All changes saved". On the left, there's a sidebar with "+ Code" and "+ Text" buttons, and a section titled "Tutorial Google Colab" which is expanded. The main workspace shows two code cells. Cell [1] contains the code "variavel = 1" and cell [2] contains "variavel = 2". Below the cells is a toolbar with icons for up, down, left, right, and other controls. The status bar at the bottom shows "nome.ipynb" and "Exibir todos".

E se eu quiser extrair  
como arquivo Python  
em .py?

## Extrair um Colab Notebook

Para extrair em formato .py, clique em File



The screenshot shows the Google Colab interface. At the top, there are two tabs: "Welcome To Colaboratory - Colab" and "nome.ipynb - Colaboratory". The URL in the address bar is "colab.research.google.com/drive/1qZK144b33PopGVIBNViynQA4FW0KanYR#scrollTo=6Jvig31UrMKE". The main area displays a notebook titled "Tutorial Google Colab". The notebook contains three code cells:

```
[1] variavel = 1
[2] variavel = 2
[3] variavel
```

The "File" menu is highlighted with a mouse cursor. The sidebar on the right shows memory usage: "RAM" (green checkmark) and "Disk" (grey bar). The bottom right corner of the sidebar has a "bemol" logo.

# Extrair um Colab Notebook

Depois clique em Download .py



Screenshot of Google Colaboratory interface showing the 'File' menu open with the 'Download .py' option highlighted.

The interface includes:

- Top bar: Welcome To Colaboratory - Colab, nome.ipynb - Colaboratory, colab.research.google.com/drive/1qZK144b33PopGVIBNViynQA4FW0KanYR#scrollTo=6Jvig31UrMKE
- Toolbar: Back, Forward, Home, Lock, Comment, Share, Settings, User profile
- File menu (open):
  - Locate in Drive
  - Open in playground mode
  - New 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
  - Save and pin revision Ctrl+M S
  - Revision history
  - Download .ipynb
  - Download .py** (highlighted)
  - Update Drive preview
  - Print Ctrl+P
- Right sidebar: RAM (green checkmark), Disk, Editing, and a toolbar with arrows, settings, and trash icons.
- Bottom status bar: nome.ipynb, Exibir todos, bemol

## Extrair um Colab Notebook

Vai aparecer um aviso, mas clique em Manter



Este tipo de arquivo pode danificar seu computador.  
Quer manter o arquivo nome.py mesmo assim?

nome.ipynb

File Edit View Insert Runtime Tools Help All changes saved

+ Code + Text

RAM Disk

Tutorial Google Colab

```
[1] variavel = 1
[2] variavel = 2
variavel
```

Comment Share

Exibir todos

Este tipo de arquivo pode danificar seu computador.  
Quer manter o arquivo nome.py mesmo assim?

nome.ipynb

File Edit View Insert Runtime Tools Help All changes saved

+ Code + Text

RAM Disk

Tutorial Google Colab

```
[1] variavel = 1
[2] variavel = 2
variavel
```

Comment Share

Exibir todos

# Extrair um Colab Notebook

Prontinho...



Screenshot of a Google Colab notebook titled "nome.ipynb". The notebook contains the following code:

```
[1] variavel = 1
[2] variavel = 2
▶ variavel
```

The "variavel" cell is currently selected and has a play button icon next to it. The sidebar on the left shows a section titled "Tutorial Google Colab". The bottom navigation bar shows tabs for "nome.py" and "nome.ipynb".

# Extrair um Colab Notebook

...clique no x para fechar a aba de downloads



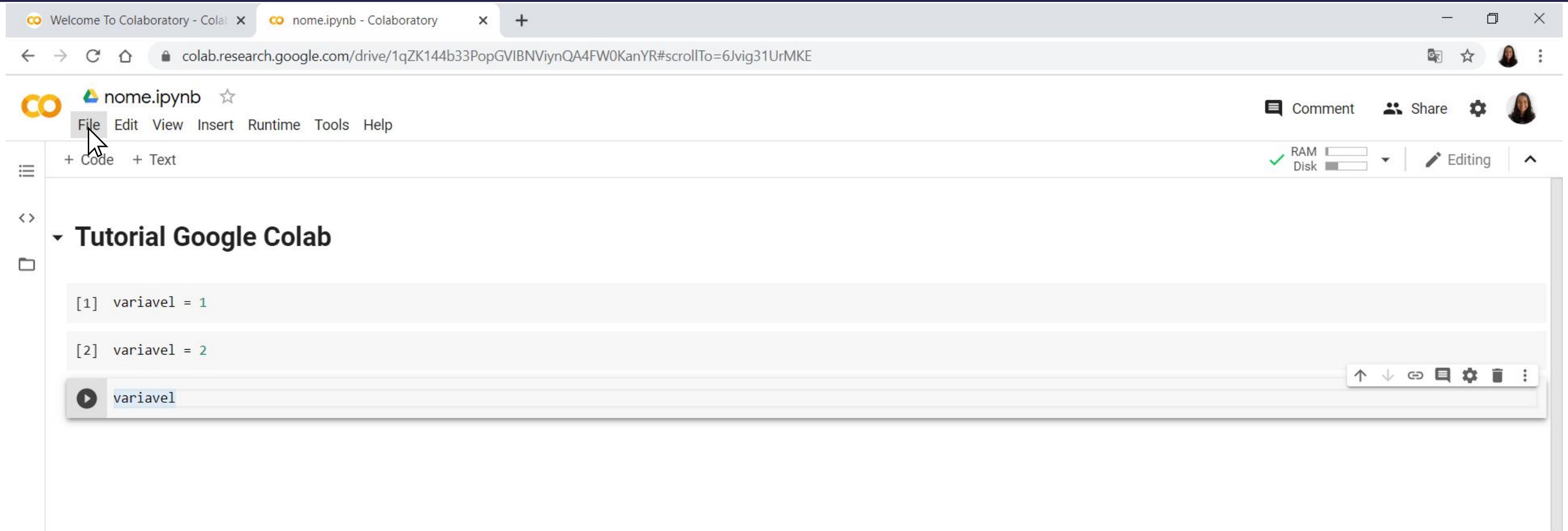
The screenshot shows the Google Colab interface. At the top, there are two tabs: 'Welcome To Colaboratory - Colab' and 'nome.ipynb - Colaboratory'. The URL in the address bar is 'colab.research.google.com/drive/1qZK144b33PopGVIBNViynQA4FW0KanYR#scrollTo=6Jvig31UrMKE'. The main area displays a notebook titled 'Tutorial Google Colab'. The first cell contains the code: [1] variavel = 1 and [2] variavel = 2. The output cell shows the variable 'variavel' with a play button icon. The sidebar on the right includes sections for 'Comment', 'Share', 'RAM' (with a green checkmark), 'Disk', and 'Editing'. A blue callout bubble points to the bottom-right corner of the sidebar, indicating where to click to close the download tab.

A seta no canto inferior  
direito indica onde está  
localizado o x.

Sabia que também é  
possível imprimir Colab  
Notebooks?

## Extrair um Colab Notebook

Para imprimir um Colab Notebook, clique em File



# Extrair um Colab Notebook

Depois clique em Print



Screenshot of Google Colaboratory interface showing the 'File' menu open with the 'Print' option highlighted.

The 'File' menu options include:

- Locate in Drive
- Open in playground mode
- New 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
- Print Ctrl+P**

## Extrair um Colab Notebook

É possível inclusive salvar em formato .pdf



The screenshot shows a Google Colab notebook titled "Tutorial Google Colab". The notebook contains the following code:

```
variavel = 1
variavel = 2
variavel
```

The "File" menu is open, showing options like File, Edit, View, Insert, Run, etc. A print dialog box is overlaid on the screen, titled "Imprimir". It shows "2 páginas" and has dropdown menus for "Destino" (set to "Salvar como PDF"), "Páginas" (set to "Tudo"), and "Layout" (set to "Retrato"). At the bottom of the dialog are "Mais definições" and two buttons: "Salvar" (highlighted with a red box) and "Cancelar".

## Extrair um Colab Notebook

Por fim, lembra que as alterações ficam salvas?



The screenshot shows the Google Colab interface. At the top, there are two tabs: 'Welcome To Colaboratory - Colab' and 'nome.ipynb - Colaboratory'. The URL in the address bar is 'colab.research.google.com/drive/1qZK144b33PopGVIBNViynQA4FW0KanYR#scrollTo=6Jvig31UrMKE'. The main area displays a notebook titled 'Tutorial Google Colab'. The code cell contains the following Python code:

```
[1] variavel = 1
[2] variavel = 2
▶ variavel
```

The status bar at the bottom right shows 'RAM' with a green checkmark and 'Disk' with a grey bar. A tooltip with the text 'Clique em File mais uma vez.' is overlaid on the left side of the interface.

Clique em File mais uma vez.

# Extrair um Colab Notebook

## Elas estão salvas no Google Drive



The screenshot shows the Google Colaboratory interface. The title bar has two tabs: 'Welcome To Colaboratory - Colab' and 'nome.ipynb - Colaboratory'. The URL in the address bar is 'colab.research.google.com/drive/1qZK144b33PopGVIBNViynQA4FW0KanYR#scrollTo=6Jvig31UrMKE'. The main area is a notebook editor with a toolbar above it. On the left, there's a sidebar with a file tree. A context menu is open over the file 'nome.ipynb', with the 'File' tab selected. The menu items include: Locate in Drive (highlighted with a cursor), Open in playground mode, New notebook, Open notebook... (with Ctrl+O shortcut), 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 (with Ctrl+M S shortcut), Revision history, Download .ipynb, Download .py, Update Drive preview, and Print (with Ctrl+P shortcut). The top right of the screen shows sharing and settings icons.

Depois clique em Locate in Drive.

## Extrair um Colab Notebook

Esta é a visualização dos seus notebooks no Drive

16

As setas apontam as duas abas abertas que devem ser fechadas para voltarmos ao início do Google Colaboratory.

Colab Notebooks - Google Drive

Welcome To Colaboratory - Colab

nome.ipynb - Colaboratory

drive.google.com/drive/folders/15eB9azjmTJWjVZ\_5FMwQxaWJwJniZn2e

Drive

Pesquisar no Drive

Novo

Arquivos

Meu Drive > Colab Notebooks

Nome

CO nome.ipynb

Prioridade

Meu Drive

Compartilhados comigo

Recentes

Com estrela

Lixeira

Armazenamento

199,6 MB de 15 GB usados

Comprar armazenamento

Aguardando ogs.google.com...

# Extrair um Colab Notebook

Pronto!



Welcome To Colaboratory - Colab x +

colab.research.google.com/notebooks/intro.ipynb

Welcome To Colaboratory

File Edit View Insert Runtime Tools Help

Table of contents x

- Getting started
- Data science
- Machine learning
- More Resources
- Machine Learning Examples
- + Section

+ Code + Text Copy to Drive Connect ▾ | ✎ Editing ^

## What is Colaboratory?

Colaboratory, or "Colab" for short, allows you to write and execute Python in your browser, with

- Zero configuration required
- Free access to GPUs
- Easy sharing

Whether you're a **student**, a **data scientist** or an **AI researcher**, Colab can make your work easier. Watch [Introduction to Colab](#) to learn more, or just get started below!

### Getting started

The document you are reading is not a static web page, but an interactive environment called a **Colab notebook** that lets you write and execute code.

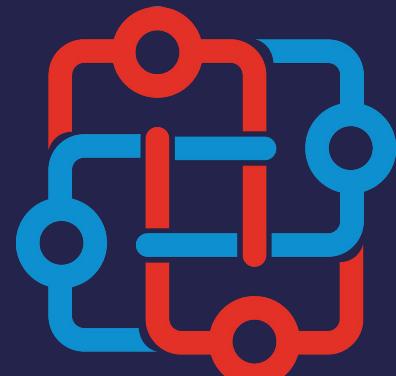
For example, here is a **code cell** with a short Python script that computes a value, stores it in a variable, and prints the result:

```
[ ] seconds_in_a_day = 24 * 60 * 60
seconds_in_a_day
```

86400

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:



**XP Lab**



**FAZER UPLOAD DE UM  
COLAB NOTEBOOK**

# Fazer upload de um Colab Notebook

## Esta é a tela inicial do Google Colaboratory



Welcome To Colaboratory - Colab x +

colab.research.google.com/notebooks/intro.ipynb

Welcome To Colaboratory

File Edit View Insert Runtime Tools Help

Table of contents x

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# Fazer upload de um Colab Notebook

Para fazer upload, clique em File



Welcome To Colaboratory - Colab x +

colab.research.google.com/notebooks/intro.ipynb

Welcome To Colaboratory

File Edit View Insert Runtime Tools Help

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+ Code + Text Copy to Drive

Share Connect Editing

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seconds_in_a_day
```

86400

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:

# Fazer upload de um Colab Notebook

Depois clique em Upload notebook...



Welcome To Colaboratory - Colab x +

colab.research.google.com/notebooks/intro.ipynb

Welcome To Colaboratory

File Edit View Insert Runtime Tools Help

New notebook

Open notebook... Ctrl+O

Upload notebook... (Mouse cursor)

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

Print Ctrl+P

Code + Text Copy to Drive Connect Editing

What is Colaboratory?

Colaboratory, or "Colab" for short, allows you to write and execute Python in your browser, with

- Zero configuration required
- Free access to GPUs
- Easy sharing

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## Getting started

The document you are reading is not a static web page, but an interactive environment called a **Colab notebook** that lets you write and execute code.

For example, here is a **code cell** with a short Python script that computes a value, stores it in a variable, and prints the result:

```
[ ] seconds_in_a_day = 24 * 60 * 60
seconds_in_a_day
```

86400

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:

# Fazer upload de um Colab Notebook

E então clique em Escolher arquivo



Welcome To Colaboratory - Colab

colab.research.google.com/notebooks/intro.ipynb

Welcome To Colaboratory

File Edit View Insert Runtime Tools Help

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+ Code + Text Copy to Drive

Examples Recent Google Drive GitHub Upload

to Colab to learn more, or

lets you write and execute

the result:

Escolher arquivo Nenhum arquivo selecionado

CANCEL

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.

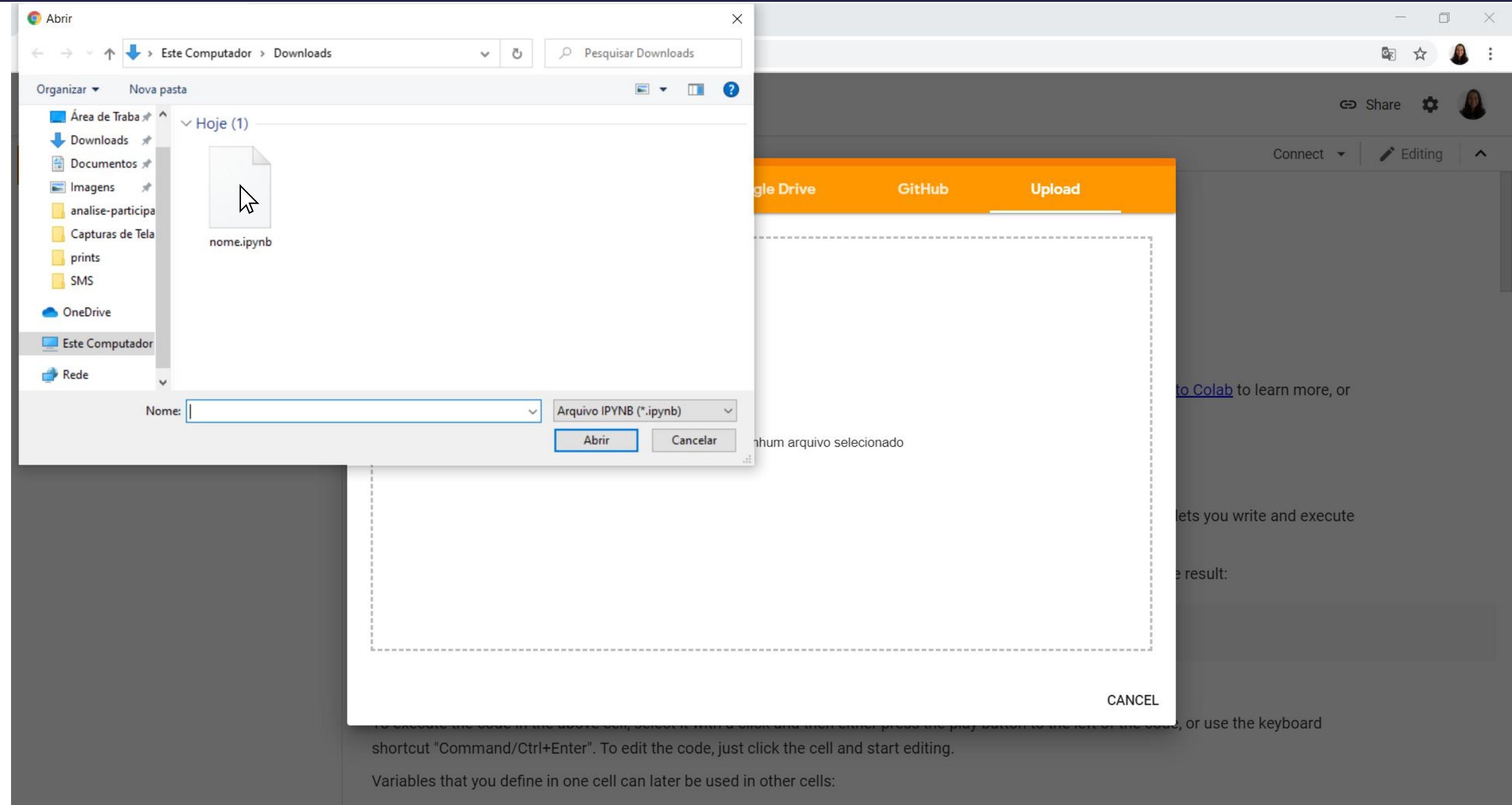
Variables that you define in one cell can later be used in other cells:

Arrastar o arquivo também funciona!

bemol

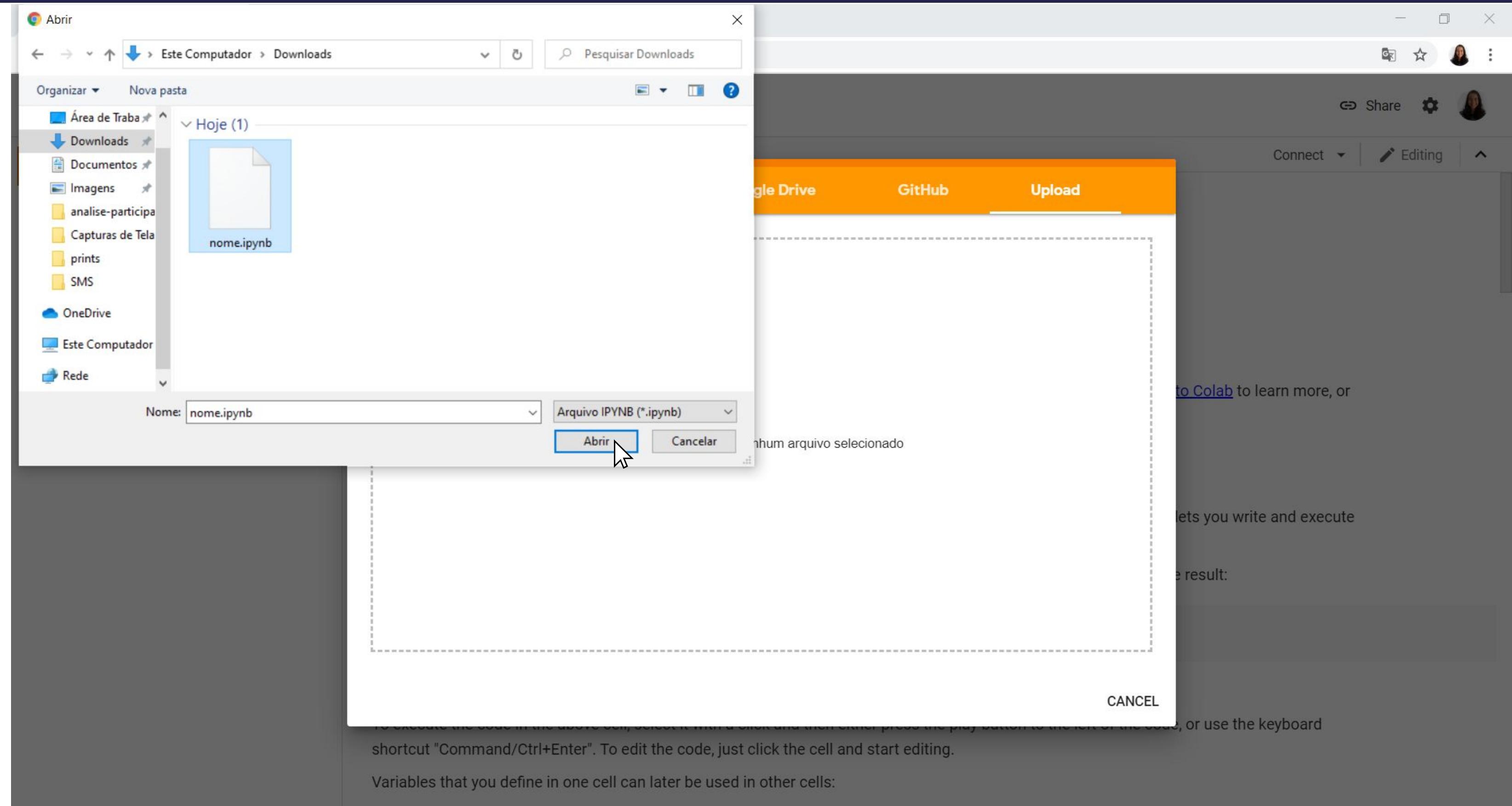
# Fazer upload de um Colab Notebook

Vai abrir uma janela, então selecione o notebook



# Fazer upload de um Colab Notebook

Depois clique em Abrir



# Fazer upload de um Colab Notebook

Aguarde o uploading...



Welcome To Colaboratory - Colab

colab.research.google.com/notebooks/intro.ipynb

Welcome To Colaboratory

File Edit View Insert Runtime Tools Help

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+ Code + Text Copy to Drive

Examples Recent Google Drive GitHub Upload

Uploading...

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:

CANCEL

to Colab to learn more, or

lets you write and execute

the result:

XP Lab

# Fazer upload de um Colab Notebook

Pronto!



nome.ipynb - Colaboratory

colab.research.google.com/drive/1Cr8Hymwa5ExT0FSHeb08Z2\_Lq1uTLJTP#scrollTo=9idzhZqjpXB8

nome.ipynb

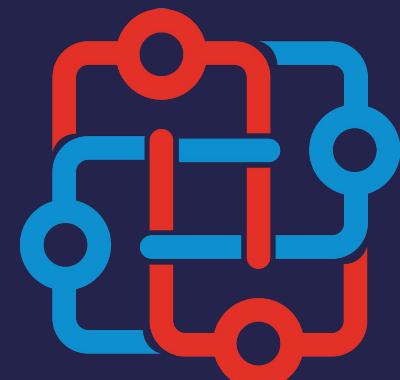
File Edit View Insert Runtime Tools Help

+ Code + Text

Comment Share

Tutorial Google Colab

```
[ ] variavel = 1
[ ] variavel = 2
[ ] variavel
```



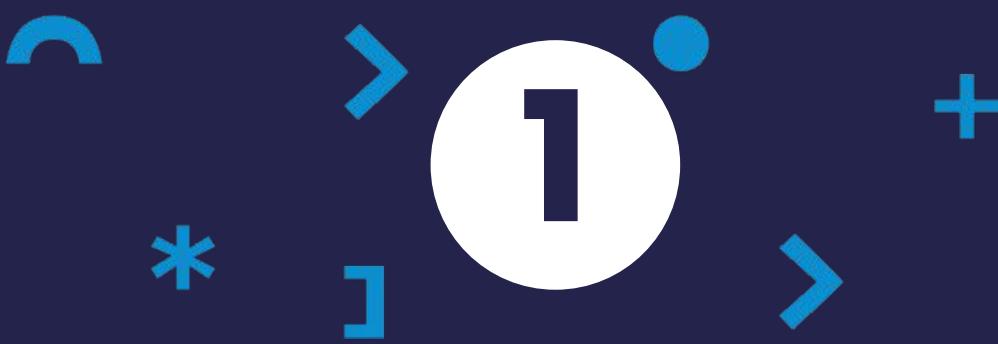
XP Lab



# IMPORTANDO ARQUIVOS EM UM COLAB NOTEBOOK

# Importando arquivos em um Colab Notebook

Este é um Colab Notebook após upload



The screenshot shows a Google Colab notebook titled "Tutorial Google Colab". The notebook contains three code cells:

```
[ ] variavel = 1
[ ] variavel = 2
[ ] variavel
```

Execute todas as  
células do seu Colab  
Notebook.

# Importando arquivos em um Colab Notebook

Clique na pasta na lateral esquerda



The screenshot shows a Google Colab notebook interface. At the top, there's a toolbar with file operations like 'File', 'Edit', 'View', 'Insert', 'Runtime', 'Tools', and 'Help'. Below the toolbar is a menu bar with 'File', 'Edit', 'View', 'Insert', 'Runtime', 'Tools', and 'Help'. The main area contains a code cell with the following content:

```
[1] variavel = 1
[2] variavel = 2
[3] variavel
```

A cursor is visible over the folder icon in the sidebar, which is expanded to show a folder named 'Tutorial Google Colab'. The sidebar also includes buttons for '+ Code' and '+ Text'.

# Importando arquivos em um Colab Notebook

## Este é o local para importar arquivos



The screenshot shows a Google Colab notebook interface. The title bar says 'nome.ipynb - Colaboratory'. The URL is 'colab.research.google.com/drive/1Cr8Hymwa5ExT0FSHeb08Z2\_Lq1uTLJTP#scrollTo=9idzhZqjpXB8'. The sidebar on the left shows a 'Files' section with 'Upload', 'Refresh', and 'Mount Drive' options, and a folder named 'sample\_data'. The main area displays the following code:

```
[1] variavel = 1
[2] variavel = 2
[3] variavel
```

Output for line 3: 2

**É importante ressaltar que este é o diretório raíz do Colab, ou seja, os arquivos importados neste local poderão ser utilizados no código sem o acréscimo de diretórios ou caminhos.**

A pasta “sample\_data” sempre aparecerá.

Disk 76.87 GB available

# Importando arquivos em um Colab Notebook

Para importar um arquivo clique em Upload



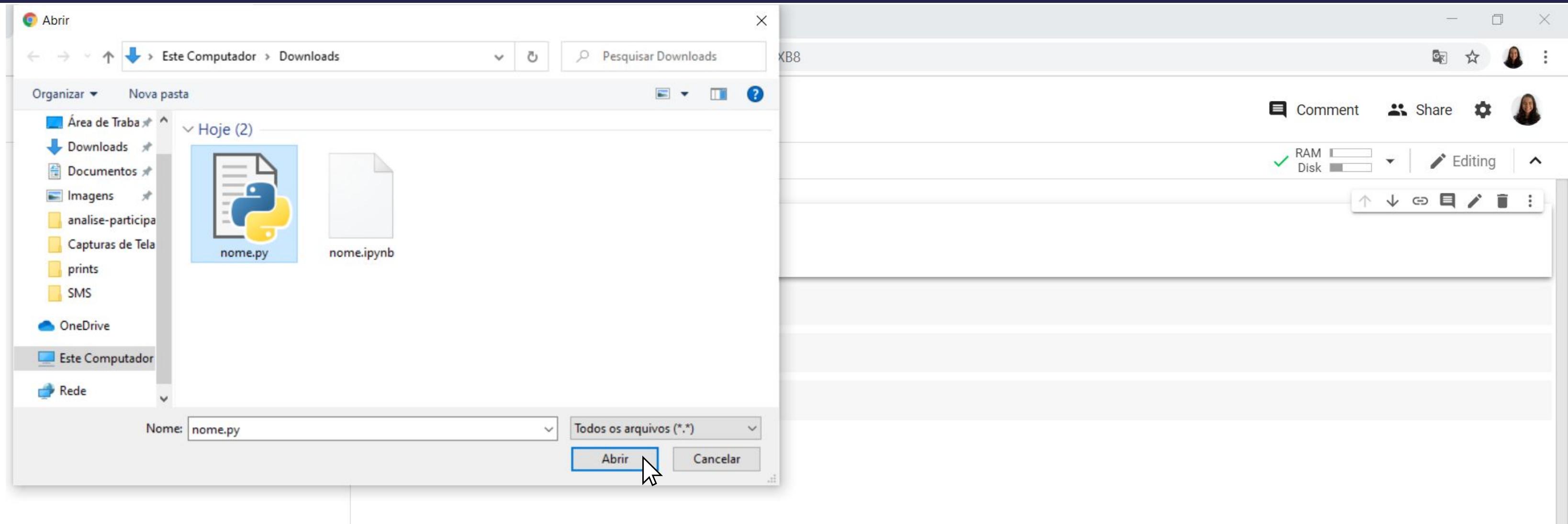
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```
[1] variavel = 1
[2] variavel = 2
[3] variavel
```

The output for the third cell is '2'. At the bottom left, there's a 'Disk' status bar showing '76.87 GB available'.

# Importando arquivos em um Colab Notebook

Selecione um arquivo e clique em Abrir



Nesse caso o arquivo a ser importado é um .py extraído do próprio notebook.

Disk 76.87 GB available

# Importando arquivos em um Colab Notebook

Aparecerá um aviso, clique em OK



nome.ipynb - Colaboratory

colab.research.google.com/drive/1Cr8Hymwa5ExT0FSHeb08Z2\_Lq1uTLJTP#scrollTo=9idzhZqjpXB8

nome.ipynb

File Edit View Insert Runtime Tools Help All changes saved

Files

- Upload
- Refresh
- Mount Drive
- ..
- sample\_data

+ Code + Text

Comment Share

RAM Disk Editing

Tutorial Google Colab

```
[1] variavel = 1
[2] variavel = 2
[3] variavel
```

Reminder, uploaded files will get deleted when this runtime is recycled.  
[More info](#)

OK

nome.py

Disk 76.87 GB available

Essa mensagem é  
extremamente  
importante, pois ela  
avisa que os arquivos  
importados terão de  
ser importados  
novamente quando  
se encerrar essa  
sessão.

# Importando arquivos em um Colab Notebook

Aguarde o uploading...



The screenshot shows a Google Colab notebook titled "Tutorial Google Colab". The sidebar on the left lists files: "nome.ipynb", "Upload", "sample\_data", and "nome.py". The main area contains three code cells:

```
[1] variavel = 1
[2] variavel = 2
[3] variavel
```

The output for cell [3] is "2". A blue callout bubble with a yellow arrow points from the text "A seta aponta o local que indica o processo." to the "nome.py" file in the sidebar.

A seta aponta o local que indica o processo.

nome.py

Disk 76.87 GB available

# Importando arquivos em um Colab Notebook

Prontinho, arquivo importado!



nome.ipynb - Colaboratory

colab.research.google.com/drive/1Cr8Hymwa5ExT0FSHeb08Z2\_Lq1uTLJTP#scrollTo=9idzhZqjpXB8

File Edit View Insert Runtime Tools Help All changes saved

Files

- Upload
- Refresh
- Mount Drive
- ..
- sample\_data
- nome.py

+ Code + Text

RAM Disk Editing

Tutorial Google Colab

```
[1] variavel = 1
[2] variavel = 2
[3] variavel
```

2

Disk 76.87 GB available

# Importando arquivos em um Colab Notebook

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## Clicando com o botão direito é possível visualizar opções

The screenshot shows a Google Colab notebook interface. The title bar says "nome.ipynb - Colaboratory". The URL in the address bar is "colab.research.google.com/drive/1Cr8Hymwa5ExT0FSHeb08Z2\_Lq1uTLJTP#scrollTo=9idzhZqjpXB8". The top menu includes File, Edit, View, Insert, Runtime, Tools, and Help, with "All changes saved" indicated. On the left, there's a "Files" sidebar with "Upload", "Refresh", and "Mount Drive" buttons, and a list of files: "..", "sample\_data", and "nome.py". The main workspace contains a code cell with the following content:

```
[1] variavel = 1
[2] variavel = 2
[3] variavel
```

The output of the third cell is "2". A context menu is open over the first cell, showing options: "Upload", "Refresh", "New file", and "New folder". The bottom status bar shows "Disk" and "76.87 GB available".

# Importando arquivos em um Colab Notebook

É aconselhável não clicar nesses três pontinhos...



The screenshot shows a Google Colab notebook interface. The title bar says 'nome.ipynb - Colaboratory'. The URL is 'colab.research.google.com/drive/1Cr8Hymwa5ExT0FSHeb08Z2\_Lq1uTLJTP#scrollTo=9idzhZqjpXB8'. The sidebar shows a 'Files' section with 'sample\_data' and 'nome.py' files. The main area displays the following code execution results:

```
[1] variavel = 1
[2] variavel = 2
[3] variavel
2
```

A blue callout bubble in the bottom-left corner contains the text 'Mas, caso aconteça...'. The bottom status bar shows 'Disk 76.87 GB available'.

# Importando arquivos em um Colab Notebook

Aparecerão estas pastas todas



The screenshot shows a Google Colab notebook titled "nome.ipynb". The left sidebar displays a file tree with various system directories like bin, boot, content, databab, dev, etc. A code cell in the main area contains the following Python code:

```
[1] variavel = 1
[2] variavel = 2
[3] variavel
```

The output of the third cell is:

```
2
```

# Importando arquivos em um Colab Notebook

A pasta content é o diretório raíz do Colab



The screenshot shows a Google Colab notebook interface. The title bar says 'nome.ipynb - Colaboratory'. The URL is 'colab.research.google.com/drive/1Cr8Hymwa5ExT0FSHeb08Z2\_Lq1uTLJTP#scrollTo=9idzhZqjpXB8'. The top menu includes File, Edit, View, Insert, Runtime, Tools, and Help, with 'All changes saved' indicated. The toolbar on the right has icons for Comment, Share, and profile. A sidebar on the left shows a 'Files' tree with folders like bin, boot, content, databab, dev, etc. A cursor points to the 'content' folder. The main area contains a code cell titled 'Tutorial Google Colab' with the following code and output:

```
[1] variavel = 1
[2] variavel = 2
[3] variavel
Out[3]: 2
```

A blue callout bubble in the bottom-left corner says 'Clique na pasta "content"'.

Disk 76.87 GB available

# Importando arquivos em um Colab Notebook

## Observe seu conteúdo



13

The screenshot shows a Google Colab notebook interface. The title bar says 'nome.ipynb - Colaboratory'. The URL is 'colab.research.google.com/drive/1Cr8Hymwa5ExT0FSHeb08Z2\_Lq1uTLJTP#scrollTo=9idzhZqjpXB8'. The sidebar on the left shows a 'Files' tree with folders like bin, boot, content (which is expanded), sample\_data, nome.py, databab, dev, etc, and home. A blue callout bubble points to the 'content' folder with the text: 'Lá está o arquivo "nome.py" que importamos.' The main workspace contains a code cell titled 'Tutorial Google Colab' with the following code and output:

```
[1] variavel = 1
[2] variavel = 2
[3] variavel
Out[3]: 2
```

The bottom status bar shows 'Disk 76.87 GB available'.

# Importando arquivos em um Colab Notebook

Atualize a tela para restaurar a visualização anterior \*

14

The screenshot shows a Google Colab notebook interface. The title bar says "nome.ipynb - Colaboratory". The URL is "colab.research.google.com/drive/1Cr8Hymwa5ExT0FSHeb08Z2\_Lq1uTLJTP#scrollTo=9idzhZqjpXB8". The top menu includes File, Edit, View, Insert, Runtime, Tools, and Help, with "All changes saved" highlighted. The sidebar has "Files" and "Mount Drive" sections. The main area shows a code cell with the title "Tutorial Google Colab". The code cell contains the following Python code:

```
[1] variavel = 1
[2] variavel = 2
[3] variavel
```

The output of the code cell is:

```
2
```

The bottom status bar shows "Disk" and "76.87 GB available".

# Importando arquivos em um Colab Notebook

Aguarde a conexão...



nome.ipynb - Colaboratory

colab.research.google.com/drive/1Cr8Hymwa5ExT0FSHeb08Z2\_Lq1uTLJTP#scrollTo=9idzhZqjpXB8

nome.ipynb

File Edit View Insert Runtime Tools Help Last saved at 1:41 PM

Comment Share

Connecting

Editing

Files

Connecting to a runtime to enable file browsing.

Tutorial Google Colab

```
[ ] variavel = 1
[ ] variavel = 2
[ ] variavel
[ ] 2
```

# Importando arquivos em um Colab Notebook

Visualização restaurada!

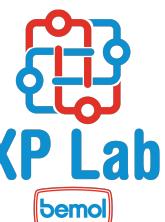


16

The screenshot shows a Google Colab notebook interface. The title bar says "nome.ipynb - Colaboratory". The URL is "colab.research.google.com/drive/1Cr8Hymwa5ExT0FSHeb08Z2\_Lq1uTLJTP#scrollTo=9idzhZqjpXB8". The sidebar shows a "Files" section with "sample\_data" and "nome.py" files. The main area has a header "Tutorial Google Colab". Below it, three code cells show the output of the command "variavel":

```
[ ] variavel = 1  
[ ] variavel = 2  
[ ] variavel
```

The output for the third cell is "2". The bottom status bar shows "Disk 76.87 GB available".



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bemol

# Importando arquivos em um Colab Notebook

É possível importar, por exemplo, uma planilha



17

The screenshot shows a Google Colab notebook interface. The title bar says 'nome.ipynb - Colaboratory'. The URL in the address bar is 'colab.research.google.com/drive/1Cr8Hymwa5ExT0FSHeb08Z2\_Lq1uTLJTP#scrollTo=9idzhZqjpXB8'. The left sidebar shows a 'Files' section with files: '..' (parent directory), 'sample\_data', 'excel.xlsx', and 'nome.py'. The main area contains a code cell starting with '[ ] variavel = 1'. A tooltip 'Tutorial Google Colab' is visible over the code. The bottom status bar shows 'Disk' and '76.87 GB available'.

Nesse caso, foi  
importado um arquivo  
Excel do tipo .xlsx

```
[ ] variavel = 1
[ ] variavel = 2
[ ] variavel
[ ] 2
```

# Importando arquivos em um Colab Notebook

Também é possível importar imagens...



The screenshot shows a Google Colab notebook interface. The title bar says "nome.ipynb - Colaboratory". The URL is "colab.research.google.com/drive/1Cr8Hymwa5ExT0FSHeb08Z2\_Lq1uTLJTP#scrollTo=9idzhZqjpXB8". The top menu includes File, Edit, View, Insert, Runtime, Tools, and Help, with "All changes saved" indicated. On the left is a "Files" sidebar with "sample\_data", "excel.xlsx", "imagem.png", and "nome.py" listed. The main area contains a code cell starting with "[ ] variavel = 1", followed by another cell starting with "[ ] variavel = 2", and then a cell starting with "[ ] variavel". The output for the last cell shows "2". A toolbar at the top right includes "Comment", "Share", "Settings", and a user profile. A status bar at the bottom shows "Disk 76.87 GB available".

# Importando arquivos em um Colab Notebook ...ou, por exemplo, arquivos texto



19

\*

[

>

The screenshot shows a Google Colab notebook interface. The title bar says 'nome.ipynb - Colaboratory'. The URL is 'colab.research.google.com/drive/1Cr8Hymwa5ExT0FSHeb08Z2\_Lq1uTLJTP#scrollTo=9idzhZqjpXB8'. The sidebar on the left shows a 'Files' section with a folder named 'sample\_data' containing 'excel.xlsx', 'imagem.png', and 'nome.py'. A file named 'texto.txt' is also listed at the bottom. The main area contains three code cells:

```
[ ] variavel = 1
[ ] variavel = 2
[ ] variavel
```

The output for the first two cells is '2'. A blue callout box in the bottom-left corner of the slide states: 'Na verdade, é possível importar qualquer tipo de arquivo!'

# Importando arquivos em um Colab Notebook

Aguarde sempre o carregamento da importação...



The screenshot shows a Google Colab notebook interface. The title bar says "nome.ipynb - Colaboratory". The URL in the address bar is "colab.research.google.com/drive/1Cr8Hymwa5ExT0FSHeb08Z2\_Lq1uTLJTP#scrollTo=9idzhZqjpXB8". The top menu includes File, Edit, View, Insert, Runtime, Tools, and Help, with "All changes saved" indicated. On the right, there are "Comment", "Share", and "Settings" buttons, along with RAM and Disk status indicators. The main area has tabs for "+ Code" and "+ Text". A section titled "Tutorial Google Colab" contains three code cells:

```
[ ] variavel = 1
[ ] variavel = 2
[ ] variavel
```

The output for the third cell is "2". To the left, a "Files" sidebar shows a directory structure with files like "sample\_data", "excel.xlsx", "imagem.png", "nome.py", and "texto.txt". At the bottom, there's a "Disk" status bar showing "76.87 GB available".

# Importando arquivos em um Colab Notebook

## ...por mais demorado que seja



The screenshot shows a Google Colab notebook interface. The title bar says 'nome.ipynb - Colaboratory'. The URL is 'colab.research.google.com/drive/1Cr8Hymwa5ExT0FSHeb08Z2\_Lq1uTLJTP#scrollTo=9idzhZqjpXB8'. The menu bar includes File, Edit, View, Insert, Runtime, Tools, and Help, with 'All changes saved' highlighted. The toolbar has 'Comment', 'Share', and other settings. On the left is a 'Files' sidebar with 'sample\_data', 'excel.xlsx', 'imagem.png', and 'nome.py'. The main area contains code cells:

```
[ ] variavel = 1
[ ] variavel = 2
[ ] variavel
```

A callout bubble on the left says: **Na parte inferior esquerda da tela é mostrado o espaço disponível para importação de arquivos.**

At the bottom left, there's a file named 'texto.txt' with a blue arrow pointing to it. The bottom status bar shows 'Disk 76.87 GB available'.

# Importando arquivos em um Colab Notebook

E quem diria que daria para importar...



The screenshot shows a Google Colab notebook interface. The title bar says "nome.ipynb - Colaboratory". The URL in the address bar is "colab.research.google.com/drive/1Cr8Hymwa5ExT0FSHeb08Z2\_Lq1uTLJTP#scrollTo=9idzhZqjpXB8". The sidebar on the left shows a file tree with a folder named "sample\_data" containing "excel.xlsx", "imagem.png", "nome.py", and "texto.txt". The main workspace contains the following code:

```
[ ] variavel = 1
[ ] variavel = 2
[ ] variavel
[ ] 2
```

The status bar at the bottom shows "Disk" and "76.87 GB available".

# Importando arquivos em um Colab Notebook ...até outro notebook!



nome.ipynb - Colaboratory

colab.research.google.com/drive/1Cr8Hymwa5ExT0FSHeb08Z2\_Lq1uTLJTP#scrollTo=9idzhZqjpXB8

File Edit View Insert Runtime Tools Help All changes saved

Files

- Upload
- Refresh
- Mount Drive

- ..
- sample\_data
- excel.xlsx
- imagem.png
- nome.py
- notebook.ipynb
- texto.txt

+ Code + Text

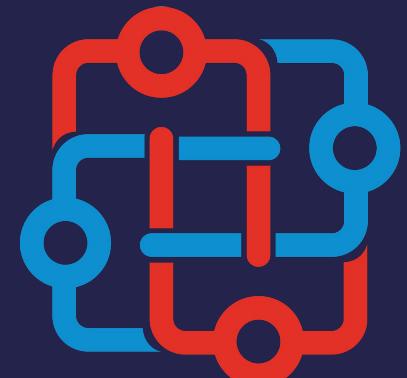
Tutorial Google Colab

```
[ ] variavel = 1
[ ] variavel = 2
[ ] variavel
```

2

Disk 76.87 GB available

Os arquivos que serão importados sempre dependerão da sua demanda!



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**EXERCÍCIOS DE EXECUÇÃO DE UM  
COLAB NOTEBOOK**

# Exercícios de execução de um Colab Notebook

## Exercício 1



nome.ipynb - Colaboratory

colab.research.google.com/drive/1Cr8Hymwa5ExT0FSHeb08Z2\_Lq1uTLJTP#scrollTo=fQwjmiqXwcEv

nome.ipynb

File Edit View Insert Runtime Tools Help All changes saved

+ Code + Text

RAM Disk

Comment Share

Exercício 1

Você consegue deixar o seu notebook exatamente igual a este? Dica: observe a numeração de execução.

```
[4] variavel = 1
[2] variavel = 2
[5] variavel
[ 1]
```

▶ |

# Exercícios de execução de um Colab Notebook

## Exercício 2



The screenshot shows a Google Colab notebook titled "Exercício 2". The notebook interface includes a toolbar at the top with file operations like File, Edit, View, Insert, Runtime, Tools, and Help, and a message indicating "All changes saved". Below the toolbar is a sidebar with sections for "+ Code" and "+ Text". The main content area displays the following code:

```
[11] variavel = 1
[7] variavel = 2
[13] variavel
  ↗ 1
```

A play button icon is visible at the bottom of the code cell, indicating it is ready to be run. The notebook URL in the browser bar is [colab.research.google.com/drive/1Cr8Hymwa5ExT0FSHeb08Z2\\_Lq1uTLJTP#scrollTo=fQwjmiqXwcEv](https://colab.research.google.com/drive/1Cr8Hymwa5ExT0FSHeb08Z2_Lq1uTLJTP#scrollTo=fQwjmiqXwcEv).

# Exercícios de execução de um Colab Notebook

## Exercício 3



nome.ipynb - Colaboratory

colab.research.google.com/drive/1Cr8Hymwa5ExT0FSHeb08Z2\_Lq1uTLJTP#scrollTo=fQwjmiqXwcEv

**nome.ipynb**

File Edit View Insert Runtime Tools Help All changes saved

+ Code + Text

RAM Disk

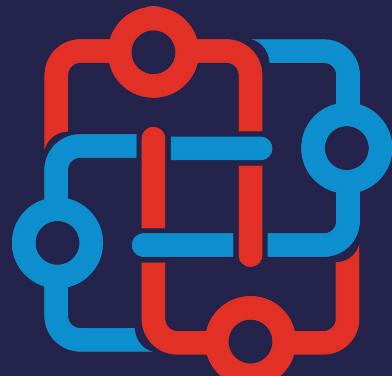
Comment Share

Exercício 3

Você consegue deixar o seu notebook exatamente igual a este? Dica: observe a numeração de execução.

```
[6] variavel = 1
[10] variavel = 5
[7] variavel
[11] variavel
[5] 5
```

Play button



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**FIM!**