Python Data Analysis Workshop

Google Colab

Quick Start Guide

Version 1

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What is Google Colab?

Google Colab is a free, cloud-based Jupyter notebook environment. It requires no installation—just a Google account and a web browser.

Key benefits:

- No setup required

- Free access to computing resources

- Easy file sharing

- Pre-installed Python libraries

1 Getting Started

1. Go to colab.research.google.com

2. Sign in with your Google account

3. Click **New Notebook** or **File → New notebook**

2 Interface Overview

- **Code cells:** Write and execute Python code

- **Text cells:** Add notes and documentation (Markdown)

- **Play button (▷):** Run the current cell

- **+ Code / + Text:** Add new cells

- **Files panel (left):** Access uploaded files

3 Essential Keyboard Shortcuts

Action	Shortcut
Run cell	`Ctrl + Enter`
Run cell and move to next	`Shift + Enter`
Add code cell below	`Ctrl + M, B`
Add text cell below	`Ctrl + M, M`
Delete cell	`Ctrl + M, D`
Undo	`Ctrl + Z`
Save notebook	`Ctrl + S`

4 Installing Libraries

Use `!pip install` to install Python packages:

```
!pip install pandas numpy matplotlib -q
```

The `!` prefix runs shell commands. The `-q` flag suppresses verbose output.

5 Uploading Files

Method 1: Using code

```python
from google.colab import files
uploaded = files.upload()   # Opens file dialog
```

Method 2: Using the Files panel

1. Click the folder icon on the left sidebar

2. Click the upload button

3. Select your file

6 Downloading Files

```python
from google.colab import files
files.download('my_file.csv')   # Downloads to your computer
```

7 Reading Uploaded Files

After uploading, read files normally:

```python
import pandas as pd
df = pd.read_csv('Road_Accidents_Lisbon.csv')
df.head()
```

> **Important:** Colab sessions reset after approximately 12 hours of inactivity. All uploaded files and installed packages will be lost. Always save your work to Google Drive or download important files before closing!