

# *Setting up Your System with IllumiDesk and Anaconda*

Ensuring you have the right tool for each project

# Objectives

Students will be able to...

- **Navigate to and within IllumiDesk**
- **Decide when to work locally or in IllumiDesk**
- **Access lessons and lab solutions using GitHub**
- **Use Anaconda, Jupyter and VS Code for data science**

// **FLATIRON SCHOOL**

Email

Password

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[Forgot Password?](#)

Log In

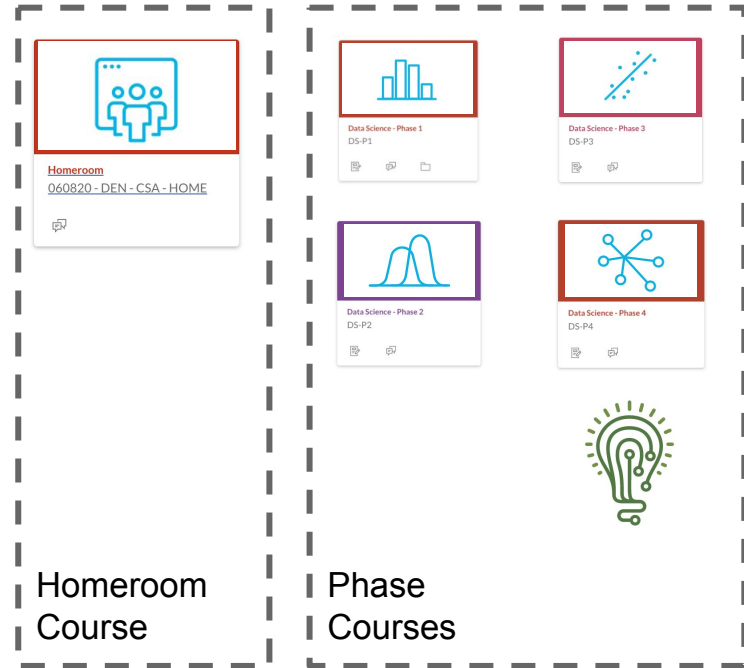
[Flatiron School Support](#) [Privacy Policy](#) [Acceptable Use Policy](#)

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# Two groups of Canvas courses



Is used in the Phase courses



# Two ways to access



**FLATIRON SCHOOL**

DS-P1 > Modules

**Account**

Dashboard

Courses

Calendar

Inbox

Flatiron School Support

**Home**

Assignments

Discussions

Grades

People

Pages

Files

Syllabus

Quizzes

Modules

Conferences

Collaborations

**illumiDesk**

**Topic 1: Getting Started with Data Science**

- Getting Started with Data Science - Introduction
- Problems Data Science Can Solve
- The Data Science Process
- Setting up a Professional Data Science Environment - Installation
- Setting up a Professional Data Science Environment - Setup
- The Structure of This Course
- Your First Jupyter Notebook!** 0 pts
- Running Jupyter Notebooks Locally
- Running Jupyter Notebooks Locally - Lab** 0 pts

**View Course Stream**

**View Course Calendar**

**View Course Notifications**

**To Do**

Nothing for now

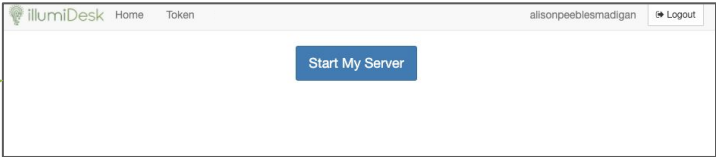
**1**

**2**

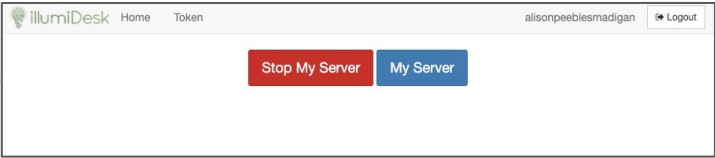


# IllumiDesk through the IllumiDesk link

- Home
- Assignments
- Discussions
- Grades
- People
- Pages
- Files
- Syllabus
- Quizzes
- Modules
- Conferences
- Collaborations
- IllumiDesk**



First time you access IllumiDesk in a Canvas session, the you will need to start your server at the Control Panel



After starting the server the Control Panel has multiple options



Either blue button will direct you to your Jupyter environment



The Control Panel button navigates back to the Control Panel, also known as "Home"



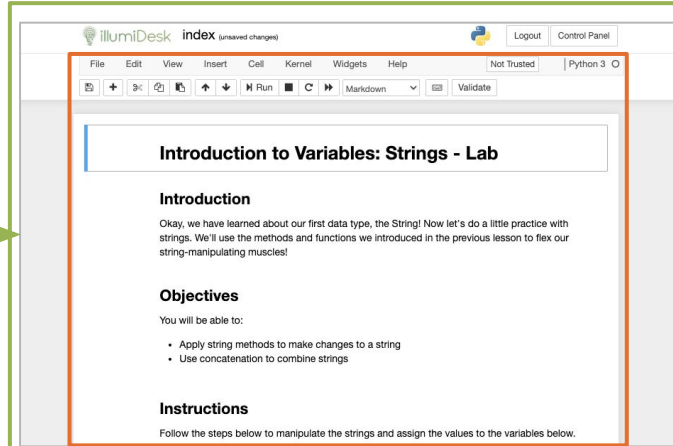
# IllumiDesk through Assignment links



## Introduction to Variables: Strings

This tool needs to be loaded in a new browser window

Load Introduction to Variables: Strings in a new window



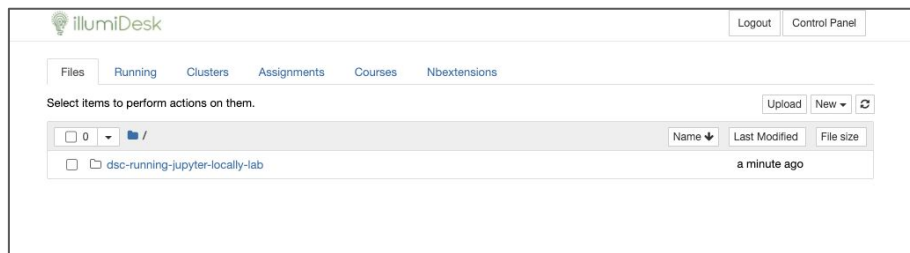
Jupyter Notebook



# IllumiDesk Structure



Every Jupyter Notebook opened through an assignment link lives in your Files tab, and will save your work.





# Only two tabs matter for now

[Logout](#)[Control Panel](#)[Files](#)[Running](#)[Clusters](#)[Courses](#)[Assignments](#)[Nbextensions](#)

Select items to perform actions on them.

[Upload](#)[New ▾](#)

<input type="checkbox"/> 0 ▾  /		Name ▾	Last Modified	File size
<input type="checkbox"/>	demo code challenge		3 days ago	
<input type="checkbox"/>	dsc-running-jupyter-locally-lab		3 days ago	
<input type="checkbox"/>	dsc-strings-lab		3 days ago	
<input type="checkbox"/>	knn_checkpoint		28 minutes ago	

A photograph of two women in a modern office environment. The woman on the left has long brown hair and wears glasses and a denim jacket. The woman on the right has short dark hair and is smiling. They are both looking at laptops. In the background, there are large windows and another person working at a desk.

**Wait - should we do labs in IllumiDesk or clone them to a local environment?**

# Advantages of GitHub

Employers look for comfort using git

A “green” robust github commit history

Content accessible after the program

It is what you will be using in the real world

Built for collaboration





## Advantages of IllumiDesk

Ease of use

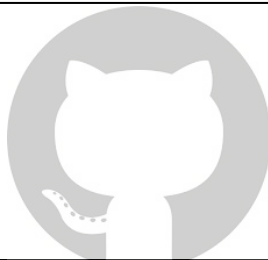
No environment issues

Fully integrated into Canvas

# ***You will use both***

## **GitHub**

Lectures,  
Projects



## **IllumiDesk**

Code Challenges,  
Labs,  
& Code Lessons



# *Every lesson with code is stored on GitHub*

## Introduction to Variables: Strings

This tool needs to be loaded in a new browser window

Load Introduction to Variables: Strings in a new window



*The GitHub logo in Canvas will navigate to the lesson's GitHub repository*

You fork and clone the source material from GitHub to your own machine.

(instructions to come)



github.com/learn-co-curriculum/dsc-strings-lab

Why GitHub? Team Enterprise Explore Marketplace Pricing

Search Sign in Sign up

learn-co-curriculum / dsc-strings-lab

Watch 27 Star 0 Fork

<> Code Issues 1 Pull requests

master 3 branches 0 tabs

LoreDirck update learning objective

- pytests
- .canvas
- .gitignore
- .learn
- CONTRIBUTING.md
- LICENSE.md
- README.md
- index.ipynb

README.md

## Introduction to Variables: Strings - Lab

### Introduction

Okay, we have learned about our first data type, the String! Now let's do a little practice with strings. We'll use the methods and functions we introduced in the previous lesson to flex our string-manipulating muscles!

### Objectives

You will be able to:

- Apply string methods to make changes to a string
- Use concatenation to combine strings

### Instructions

Follow the steps below to manipulate the strings and assign the values to the variables below

illumiDesk index (unsaved changes)

File Edit View Insert Cell Kernel Widgets Help

Not Trusted

Run Validate

Lab solutions are on the “solution” branch of each repository.

(we will teach you what that means soon)



github.com/learn-co-curriculum/dsc-strings-lab

Apps Flatiron School Intr... Gmail YouTube Maps Log In to Canvas Login | ADP Workfo...

Search or jump to... Pull requests Issues Marketplace Explore

learn-co-curriculum / dsc-strings-lab

Watch 27 Star 0 Fork 22

<> Code Issues 1 Pull requests Actions Projects Wiki Security Insights Settings

master 3 branches 0 tags

Go to file Add file Code

Switch branches/tags

Find or create a branch...

Branches Tags

✓ master default

curriculum

solution

View all branches

LICENSE.md

README.md

index.ipynb

Added tests 2 years ago

update learning objectives 27 days ago

added framework for lab -- still needs content and tests 2 years ago

updating readme 2 years ago

added framework for lab -- still needs content and tests 2 years ago

added framework for lab -- still needs content and tests 2 years ago

update learning objectives 27 days ago

update learning objectives 27 days ago

15 commits

48a1ef5 27 days ago

README.md

About

No description, website, or topics provided.

Readme

View license

Releases

No releases published

Create a new release

Packages

No packages published

Publish your first package

Contributors 6



# Saving IllumiDesk Work

<https://github.com/learn-co-curriculum/dsc-saving-illumidesk-work-to-github>

# What is ***Python***?

- A coding language used extensively by data science



# Easter Egg

```
In [1]: 1 import this
```

The Zen of Python, by Tim Peters

Beautiful is better than ugly.  
Explicit is better than implicit. [PEP 8](#)  
Simple is better than complex.  
Complex is better than complicated.  
Flat is better than nested.  
Sparse is better than dense.  
Readability counts.  
Special cases aren't special enough to break the rules.  
Although practicality beats purity.  
Errors should never pass silently.  
Unless explicitly silenced.  
In the face of ambiguity, refuse the temptation to guess.  
There should be one-- and preferably only one --obvious way to do it.  
Although that way may not be obvious at first unless you're Dutch.  
Now is better than never.  
Although never is often better than \*right\* now.  
If the implementation is hard to explain, it's a bad idea.  
If the implementation is easy to explain, it may be a good idea.  
Namespaces are one honking great idea -- let's do more of those!

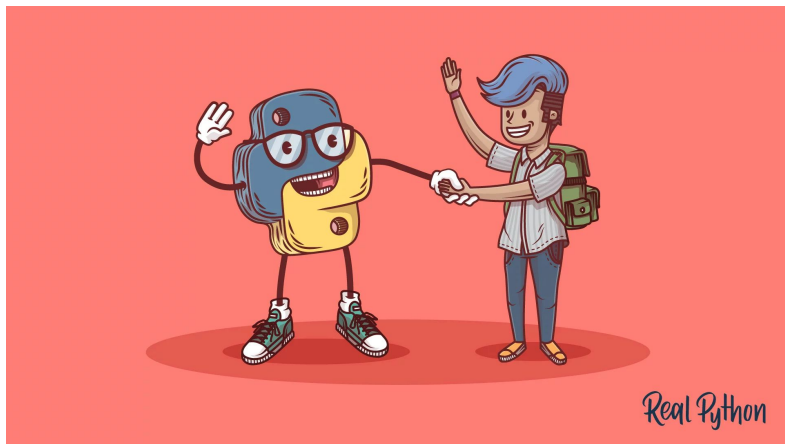
# Python

“Python, named after the British comedy group Monty Python, is an interpreted, interactive, object-oriented programming language.

Its flexibility allows it to do many things, both big and small.

Python can be used to write simple programs, but it also possesses the full power required to create complex, large-scale enterprise solutions.” - [Derrick Kearney](#)

Python is an Object Oriented Programming language, [however, unlike Java...](#)



# Python for Data Science

“The usefulness of Python for data science stems primarily from the large and active ecosystem of third-party packages:

- [NumPy](#) for manipulation of homogeneous array-based data;
- [Pandas](#) for manipulation of heterogeneous and labeled data;
- [SciPy](#) for common scientific computing tasks;
- [Matplotlib](#) for publication-quality visualizations;
- [Jupyter](#) for interactive execution and sharing of code;
- [Scikit-Learn](#) for machine learning, and many more tools...”
- [Jake VanderPlas](#)



Jake VanderPlas

# What is *Anaconda*?

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***“The open-source Anaconda Distribution is the easiest way to perform Python/R data science and machine learning on Linux, Windows, and Mac OS X. With over 15 million users worldwide, it is the industry standard for...enabling individual data scientists to:***

- ***Quickly download 1,500+ Python/R data science packages***
- ***Manage libraries, dependencies, and environments with Conda”***



– [Anaconda Distribution](#)  
- [Package List](#)



- Conda is an open source package management system and environment management system that runs on Windows, macOS and Linux.
- Conda quickly installs, runs and updates packages and their dependencies.
- Conda easily creates, saves, loads and switches between environments on your local computer.
- You'll create conda environments to share, collaborate on, and reproduce projects with specific versions of particular packages.
- Source: [Conda Documentation](#) + [Managing Environments Documentation](#) + [conda cheat sheet](#)



# What is *Jupyter*?

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# Jupyter

- Project Jupyter exists to develop open-source software, open-standards, and services for interactive computing across dozens of programming languages.
- [Jupyter Notebook](#) is an open-source web application that allows you to create and share documents that contain live code, equations, visualizations and narrative text.
  - Uses include: data cleaning and transformation, numerical simulation, statistical modeling, data visualization, machine learning, and much more.
- [JupyterLab](#) is a next-generation web-based user interface
- Share notebooks using [nbviewer](#)



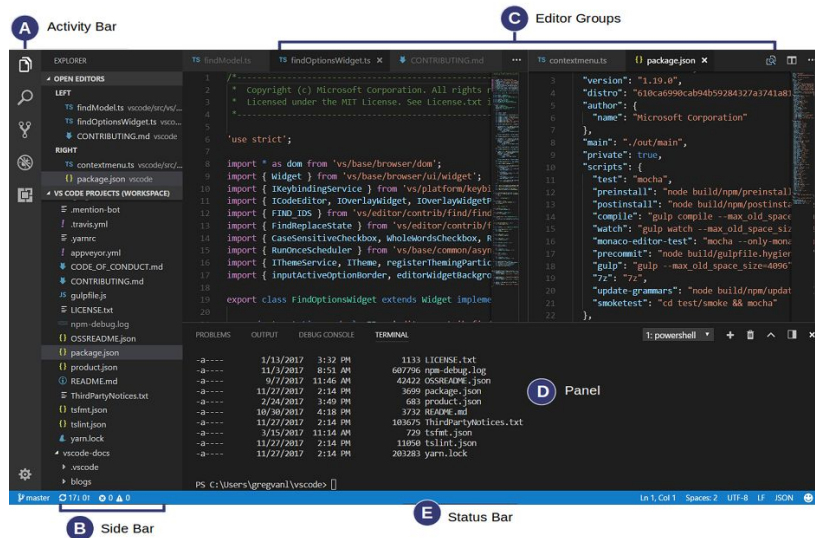
What is ***Visual Studio Code***?

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# Visual Studio (VS) Code

- Visual Studio Code is an open-source text editor created by Microsoft
- Navigate directory structure, make/remove files, and direct access to the Terminal/Command Line
- Allows you to write text files (.py, README.md, etc.) and recently, [VS Code allows you to edit Jupyter Notebooks directly](#)
- Easy to switch between conda environments and lint code



Choose the tools that work for you:



What is ***Git***? 

# Git

- Git is a version control system.
- It's a way of keeping track of all the changes made across your project.
- Think of it like “track changes” in Word - but with the ability to track changes across multiple documents.



# What is *GitHub*?

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# GitHub

- GitHub is a free software platform that hosts over 40 million developers code
- You'll primarily use GitHub to collaborate with others, document your projects, and build your portfolio to showcase your abilities as a data scientist
- You can also use GitHub for any of the following tasks:
  - Code hosting
  - Code review
  - Project management
  - Team management
  - Documentation



# Putting it All Together

Go to the “Topic 1: Getting Started with Data Science” Module in the Phase 1 course on Canvas and work through the “Setting up a Professional Data Science Environment” lessons that are appropriate for your OS!

# Pycharm: An alternative to VS Code



- Open source IDE (Integrated Development Environment) developed specifically for Python
- Powerful but heavy. Long load time and memory consumption
- [Community edition](#) is free
- Specialized features like support for django