

Python Basics

for Data Analytics and Visualization

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AI Researcher

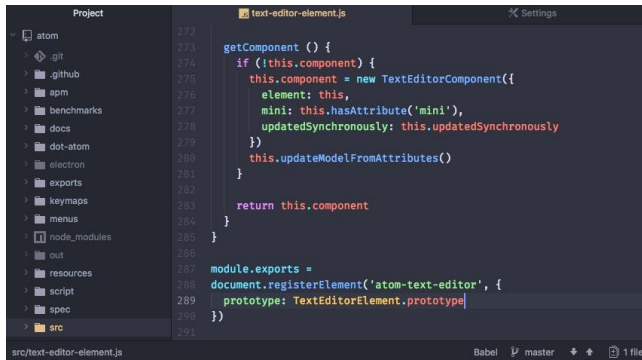


Lecture 1

- Environment Set up
- Python Basics
 - Data Types
 - Logics
 - Functions

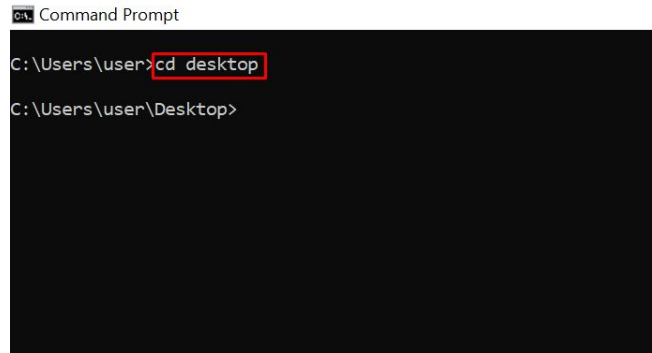


1. The Environment

A screenshot of the Visual Studio Code editor window. The left sidebar shows a project explorer with folders like 'atom', 'git', 'github', 'api', 'benchmarks', 'docs', 'dot-atom', 'electron', 'exports', 'keymaps', 'menus', 'node_modules', 'out', 'resources', 'script', 'spec', and 'src'. The main editor area displays a JavaScript file named 'text-editor-element.js' with code for a React component. The code includes a 'getComponent' function that returns a new 'TextEditorComponent' with props like 'element', 'mini', and 'updatedSynchronously'. It also shows 'this.updateModelFromAttributes()' and 'module.exports' at the bottom. The status bar at the bottom indicates 'Babel', 'master', and '1 file'.

Editor Window

- VS Code
- Text editor in PC

A screenshot of a Windows Command Prompt window. The title bar says 'Command Prompt'. The command prompt shows the current directory as 'C:\Users\user>' and the command 'cd desktop' has been entered and executed, changing the directory to 'C:\Users\user\Desktop>'. The command 'cd desktop' is highlighted with a red rectangular box.

Command Window

- In every PC

Notebook

Combination of both

1. The Environment

On Your PC



Same thing on the
Google Server

colab

1. The Environment



google colab



All



Images



Videos



Books



News



More

About 34,100,000 results (0.33 seconds)



Google

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



Welcome To Colaboratory - Colaboratory - Google

Colab notebooks allow you to combine executable code and rich text in a single c along with images, HTML, LaTeX and more. When you create your own **Colab** ...

1. The Environment



Facebook for Programmers

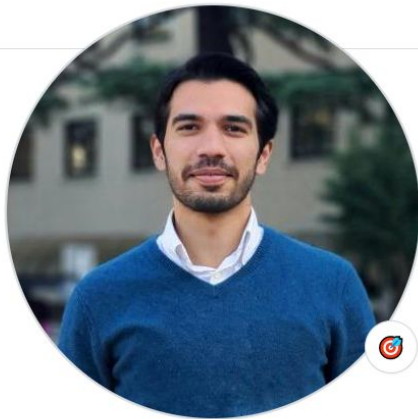


NETFLIX



github.com

github.com/harisgulzar1



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Researcher at Tokyo Tech

1. Recap of Lecture 1

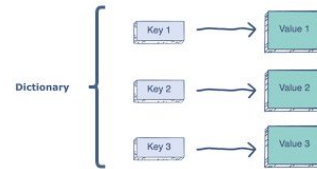
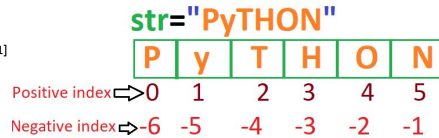
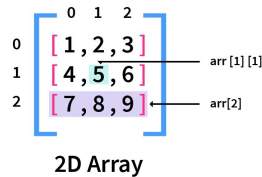
Initial Set-Up

We will use Google Colab for this course



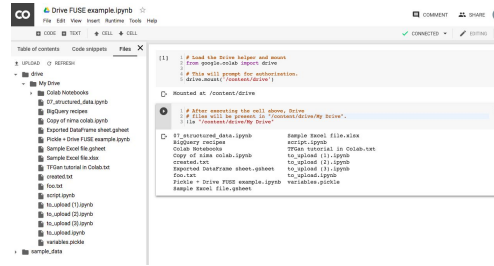
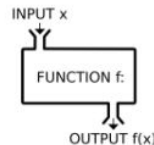
Python Data Formats

Arrays, Strings, Dictionary etc.



Functions

To handle large codes, we can wrap part of the in functions.

A screenshot of the Google Colab interface. The left sidebar shows a file explorer with various files and folders. The main area displays a Jupyter notebook with a code cell containing Python code for connecting to Google Drive and listing files. The code includes comments and function calls like 'from google.colab import drive' and 'drive.mount('/content/drive')'.

Lecture 2. Data Reading in Python

From Excel spreadsheets and text files

I will introduce libraries to load data from different sources like excel and text files.

	A	B	C	D	E	F	G
1	Donation ID	Donor ID	Type	Method	Status	Amount	Date
2	D153	S067	Donation	Credit card	Completed	\$100.00	02.05
3	D154	S123	Shirt	Credit card	Abandoned	\$25.00	03.05
4	D155	S345	Shirt	Paypal	Completed	\$25.00	07.05
5	D156	S367	Donation	Cash	Completed	\$50.00	07.05
6	D157	S121	Shirt	Paypal	Failed	\$25.00	07.05
7	D158	S112	Donation	Credit card	Completed	\$75.00	10.05
8	D159	S055	Donation	Credit card	Completed	\$100.00	12.05
9	D160	S089	Donation	Paypal	Completed	\$60.00	13.05
10	D161	S523	Shirt	Credit card	Failed	\$25.00	15.05
11	D162	S123	Shirt	Cash	Completed	\$25.00	17.05
12	D163	S165	Donation	Paypal	Abandoned	\$35.00	17.05
13	D164	S094	Donation	Paypal	Completed	\$75.00	21.05
14	D165	S054	Donation	Credit card	Completed	\$50.00	22.05
15	D166	S031	Shirt	Credit card	Completed	\$25.00	24.05
16	D167	S451	Donation	Cash	Completed	\$100.00	24.05
17	D168	S112	Shirt	Credit card	Abandoned	\$25.00	27.05
18	D169	S002	Donation	Paypal	Failed	\$50.00	27.05
19	D170	S112	Shirt	Credit card	Completed	\$25.00	30.05
20	Total May					\$895.00	



```
"last", "first", "address", "city", "state", "zip", "phone"  
Leach, Donald, 16376 E Evans Rt, Fairbanks, AK, 99707, (907) 442-7203  
Burger, Henry, 25063 S.W. Leith Ave, Conway, AR, 72032, (501) 216-1936  
Bryan, Derrick, 526 W Mohawk Court, Fayetteville, AR, 72703, (501) 937-3922  
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Matthews, Herbert, 14244 N Valencia Rt, Higley, AZ, 85236, (602) 635-3865  
Comminges, Richard, 838 E. Hill Ct, Peoria, AZ, 85381, (602) 698-0222  
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Lawler, Evelyn, 579 S.W. Sequoia Cir, Berkeley, CA, 94701, (415) 670-5367
```

We will also study:

- How can we restructure this data
- Perform numerical operations on the data.
- Examples on how we can program our own functions to process this data.