

Creative Data Mining

Uncover and evaluate

Lecture 2: Python I

27 | 02 | 2017

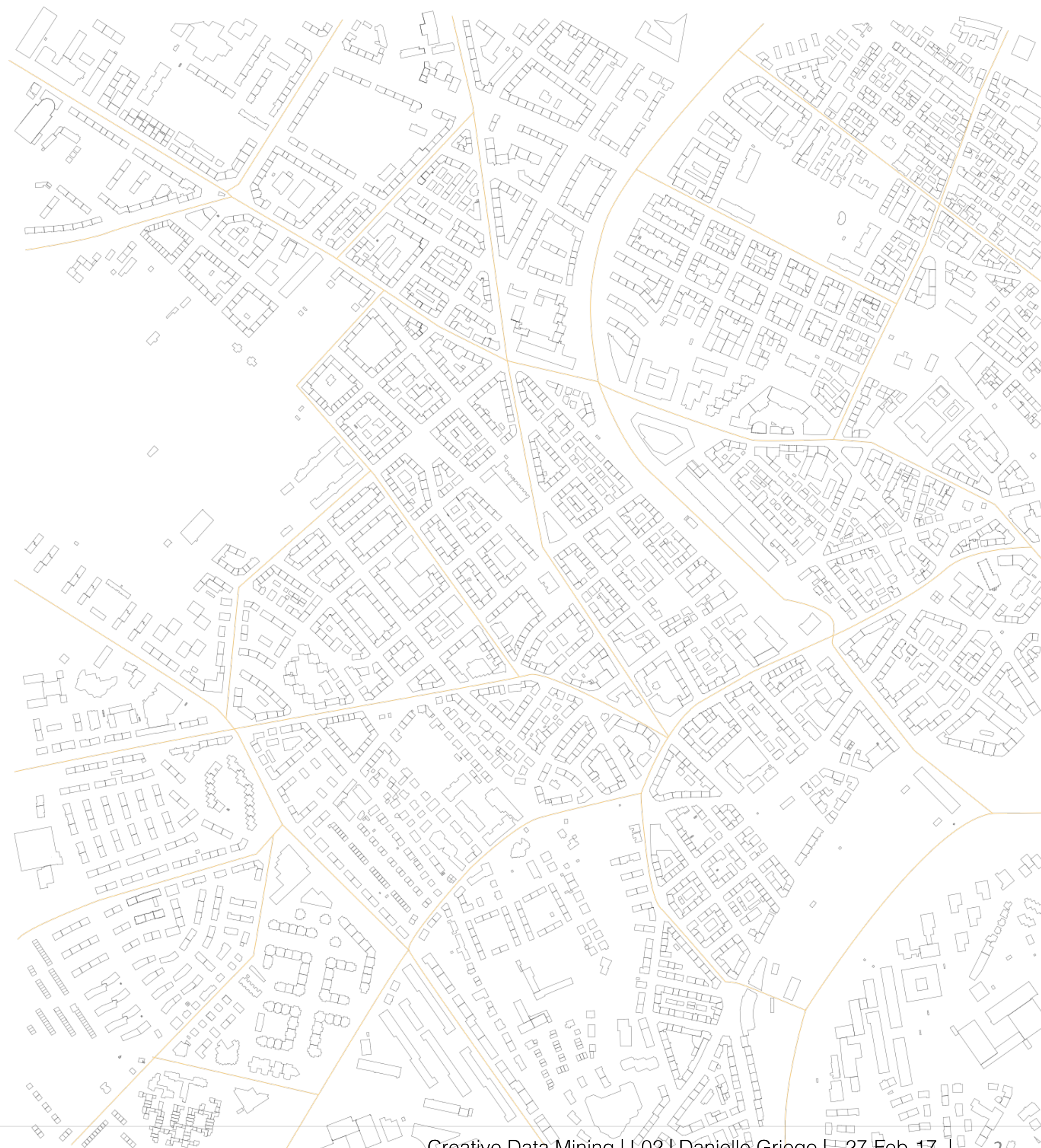
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What we'll cover today

- Review slides/homework
- Hands-on python tutorial
 - Get familiar with the environment
 - Syntax, loops, data types, conditional statements...
- First programming assignment



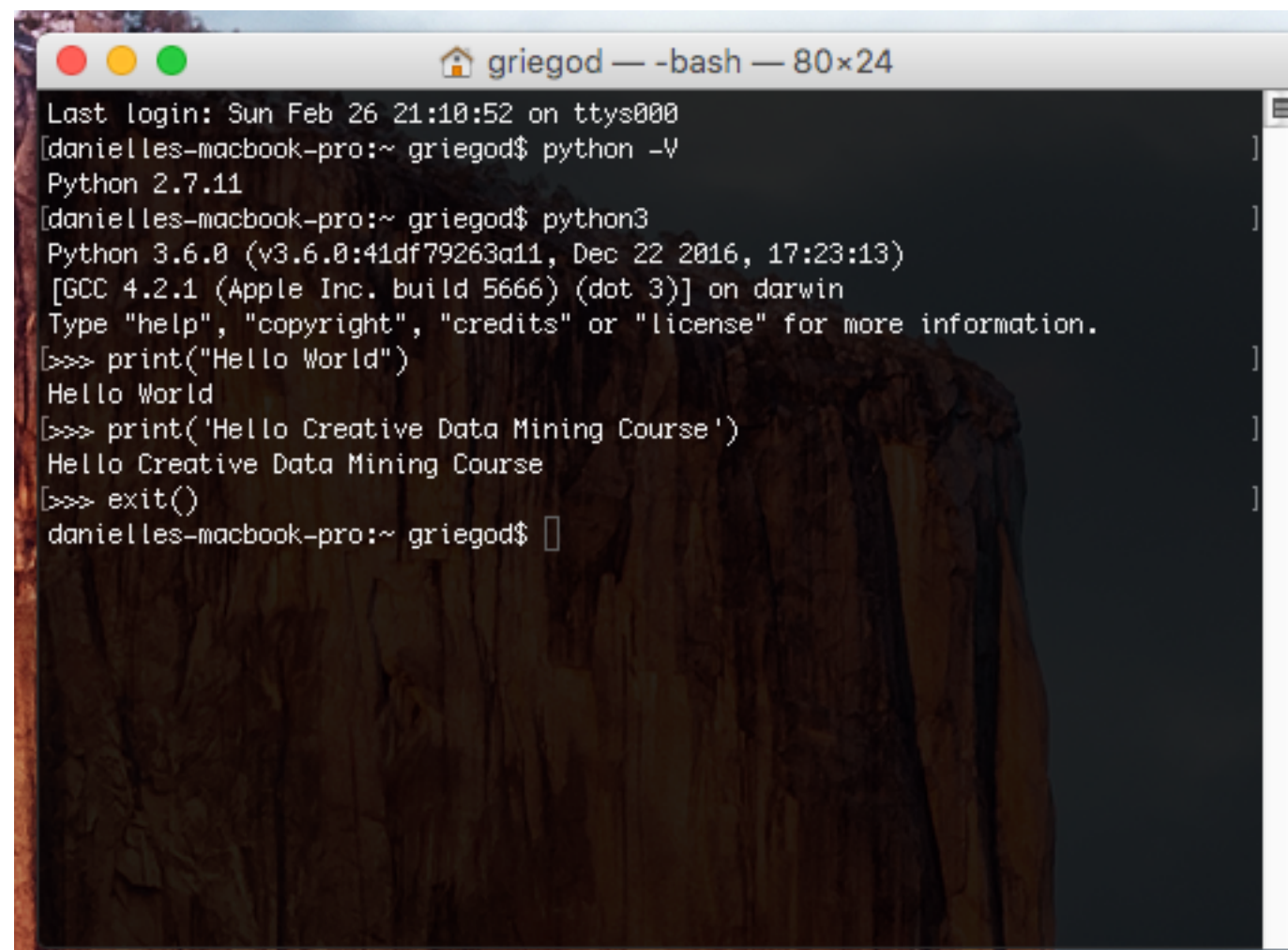
First, did everyone get python and pycharm installed?

1. Install Python from <https://www.python.org/downloads/>
2. Install PyCharm from <https://www.jetbrains.com/pycharm/download/>



Python is the programming language

We can simply access it from the command prompt/terminal

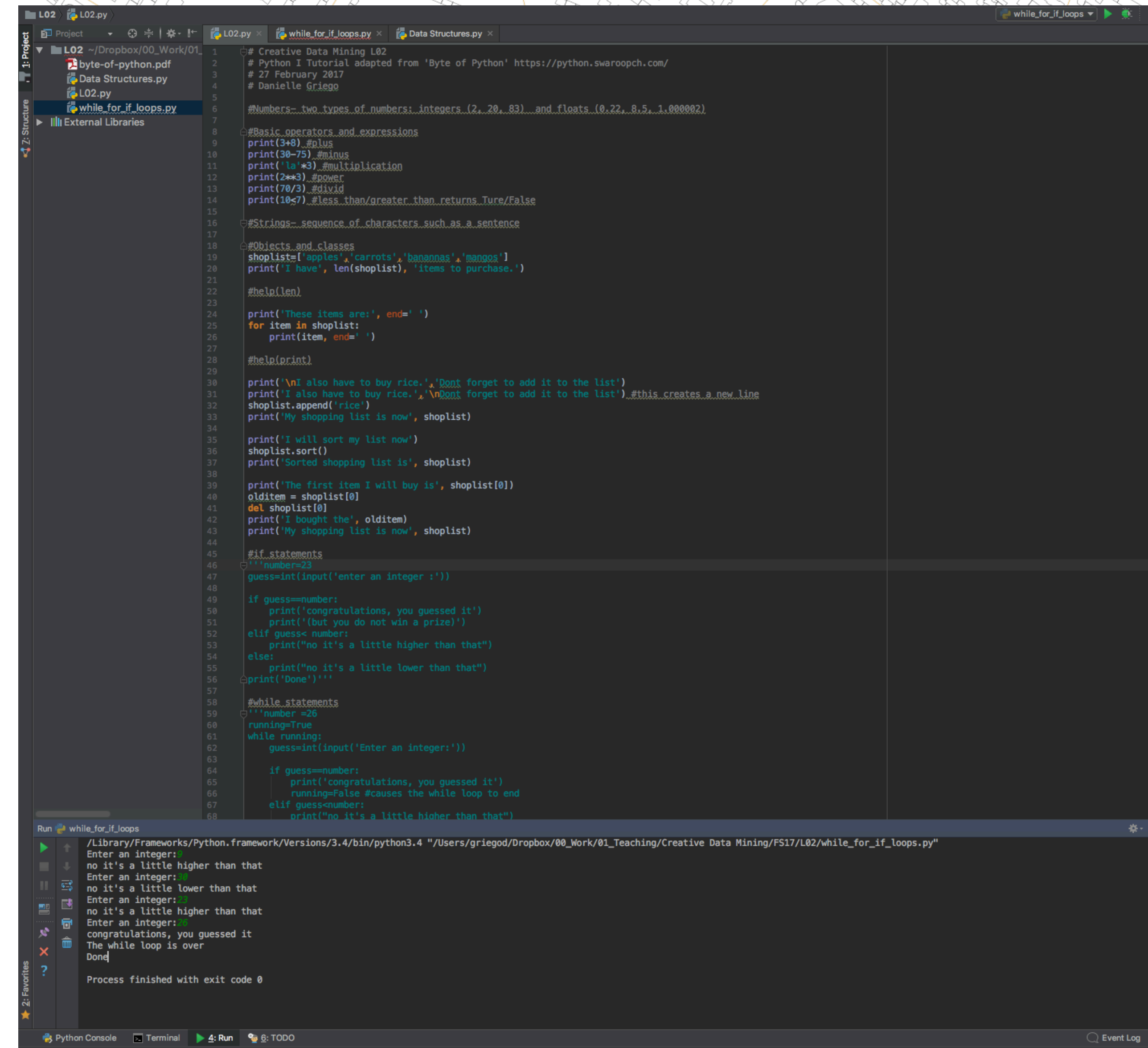
A terminal window titled 'griegod' with a window size of 80x24. The terminal shows the following commands and output:

```
Last login: Sun Feb 26 21:10:52 on ttys000
[danielles-macbook-pro:~ griegod$ python -V
Python 2.7.11
[danielles-macbook-pro:~ griegod$ python3
Python 3.6.0 (v3.6.0:41df79263a11, Dec 22 2016, 17:23:13)
[GCC 4.2.1 (Apple Inc. build 5666) (dot 3)] on darwin
Type "help", "copyright", "credits" or "license" for more information.
[>>> print("Hello World")
Hello World
[>>> print('Hello Creative Data Mining Course')
Hello Creative Data Mining Course
[>>> exit()
danielles-macbook-pro:~ griegod$
```

Python Interpreter version 2.x or 3.x

PyCharm is an IDE/Editor

There are many interactive development environments (IDE's), but we will use PyCharm



Hands-on tutorial

Adapted from “A Byte of Python”

Type to search

A Byte of Python

[Introduction](#)

Dedication

Preface

About Python

Installation

First Steps

Basics

Operators and Expressions

Control flow

Functions

Modules

Data Structures

Problem Solving

Object Oriented Programming

Input and Output

Exceptions

Standard Library

More

What Next

Appendix: FLOSS

Appendix: About

Appendix: Revision History

Appendix: Translations

Appendix: Translation How-to

Feedback

Published with GitBook

A Byte of Python

"A Byte of Python" is a free book on programming using the Python language. It serves as a tutorial or guide to the Python language for a beginner audience. If all you know about computers is how to save text files, then this is the book for you.

For Python version 3

This book will teach you to use Python version 3. There will also be guidance for you to adapt to the older and more common Python version 2 in the book.

Who reads A Byte of Python?

Here are what people are saying about the book:

- This is the best beginner's tutorial I've ever seen! Thank you for your effort. -- [Walt Michalik](#)
- The best thing i found was "A Byte of Python", which is simply a brilliant book for a beginner. It's well written, the concepts are well explained with self evident examples. -- [Joshua Robin](#)
- Excellent gentle introduction to programming #Python for beginners -- [Shan Rajasekaran](#)
- Best newbie guide to python -- [Nickson Kaigi](#)
- start to love python with every single page read -- [Herbert Feutl](#)
- perfect beginners guide for python, will give u key to unlock magical world of python -- [Dilip](#)
- I should be doing my actual "work" but just found "A Byte of Python". A great guide with great examples. -- [Biologist John](#)
- Recently started reading a Byte of python. Awesome work. And that too for free. Highly recommended for aspiring pythonistas. -- [Mangesh](#)
- A Byte of Python, written by Swaroop. (this is the book I'm currently reading). Probably the best to start with, and probably the best in the world for every newbie or even a more experienced user. -- [Apostolos](#)
- Enjoying Reading #ByteOfPython by @swaroopch best book ever -- [Yuvraj Sharma](#)
- Thank you so much for writing A Byte Of Python. I just started learning how to code two days ago and I'm already building some simple games. Your guide has been a dream and I just wanted to let you know how valuable it has been. -- Franklin

<https://python.swaroopch.com/>

What to expect for next lecture

Functions, libraries, packages, etc.

variables → functions → modules → packages





» Package Index

PACKAGE INDEX »

[Browse packages](#)

[Package submission](#)

[List trove classifiers](#)

[RSS \(latest 40 updates\)](#)

[RSS \(newest 40 packages\)](#)

[PyPI Tutorial](#)

[PyPI Security](#)

[PyPI Support](#)

[PyPI Bug Reports](#)

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PyPI - the Python Package Index

The Python Package Index is a repository of software for the Python programming language. There are currently **99598** packages here.

To contact the PyPI admins, please use the [Support](#) or [Bug reports](#) links.

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Status

[Nothing to report](#)

Get Packages

To use a package from this index either "[pip install package](#)" ([get pip](#)) or download, unpack and "[python setup.py install](#)" it.

Package Authors

Submit packages with "[python setup.py upload](#)". The index [hosts package docs](#). You may also use the [web form](#). You must [register](#). Testing? Use [testpypi](#).

Infrastructure

To interoperate with the index use the [JSON](#), [OAuth](#), [XML-RPC](#) or [HTTP](#) interfaces. Use [local mirroring](#) or [caching](#) to make installation more robust.

Updated	Package	Description
2017-02-27	urh 1.4.8	Universal Radio Hacker: investigate wireless protocols like a boss
2017-02-27	putio-automator 0.4.2.dev40	Automate management of torrents and files on Put.IO.
2017-02-27	succubus 1.0-53	Lightweight Python module for daemonizing
2017-02-27	pils 0.1.25-54	PILS - Python uTILS
2017-02-27	unsonic 0.1b2	Unsonic, the ultimate un-Subsonic music server.
2017-02-27	aiohttp_tests 0.6.0	unittest helper for aiohttp
2017-02-27	netmem 0.2.4	A network-synchronized dictionary.
2017-02-27	django-adminactions 1.3a20170222180258	Collections of useful actions to use with django.contrib.admin.ModelAdmin
2017-02-27	shmock 1.0.0-50	SHELL command MOCKer for integration testing
2017-02-27	p4rr0t007 0.1.12	h1gh IEv3l f14sk 4 h4x0rs
2017-02-27	hasy 0.1	Off-line Handwriting Recognition Tools
2017-02-27	delfick_app 0.9	Customized App mainline helper
2017-02-27	jubakit 0.4.2	Jubatus Toolkit
2017-02-27	pinyinflx 1.0.0	Converts mandarin chinese .srt files to pinyin-annotated .dfxp files that can be used with Netflix.
2017-02-27	delfick-logging 0.1	Opinionated logging helpers
2017-02-27	atx-webide 0.1.1.dev43	tool for writing atx script
2017-02-27	tvdb-rest 0.1	Python client implementation for The TVDB REST API
2017-02-27	embedded_jubatus 1.0.2	embedded-jubatus-python is a Python bridge to call Jubatus Core library.

<https://pypi.python.org/pypi>

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IA

Chair of Information Architecture

Creative Data Mining | L02 | Danielle Griego | 27-Feb-17 | 7

Programming Homework 1

Due March 13th

Exercise 1

Creative Data Mining. Uncover and Evaluate
Chair of Information Architecture
ETH Zürich

February 27, 2017

Hand-In

Please hand in your scripts (*.py* files) latest on March 13th after the lecture to Dani Zünd (zuend@arch.ethz.ch).

Loops

Print the following patterns using *for* and/or *while* loops. You should not use more than one *print* statement per exercise.

- a) #####

#####

d) #0#0#0#
#0#0#0#
#0#0#0#
- b) ###
000

000

e) #0#0#0#
0#0#0#0
#0#0#0#
- c) #

#####

f) #
0#
0#0
#0#0
#0#0#

Resources for the course

Course Material Posted to:

- <http://www.ia.arch.ethz.ch/category/fs2017-creative-data-mining/>

A SMALL sample of Tutorials and references:

- https://www.tutorialspoint.com/python/python_basic_operators.htm
- <http://www.informatics.indiana.edu/rocha/academics/i-bic/lab1/Python%20review.pdf>
- “A Byte of Python” <https://python.swaroopch.com/>
- Coelho, Luis Pedro; Richard, Will. Building Machine Learning Systems with Python, Packt Publishing (Adobe Editions Library)

Questions?

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