Have you been listening?

I've been playing music each week before the lessons. Can you name all the soundtracks? Hints:

Week 1: From a video game

Week 2: From a movie

Week 3: From a TV show

Week 4: From the movie version of a comic book

Week 5: From the movie version of a book series

Week 6 (today): From the movie version of a musical

Send your guesses to Colby as a direct message in Zoom chat!

Lesson 6:
**treasures from
the standard
library and
cupcakes**
will begin at
12:03 CDT

Please unmute me
(you should hear music)

Next Steps
in Python:
Lunch Lessons
———
with Colby Witherup Wood

and Dan Turner

Next Steps in Python: treasures from the standard library

- On Zoom, unmute me ("Colby Witherup Wood") and choose Speaker View

- Two ways to access the materials:

  1. Go to http://www.github.com/agithasnoname/treasure. Click on the green "Clone or download" button, and then Download Zip. Open Anaconda Navigator and choose either Jupyter Lab or Jupyter Notebook. Navigate to the folder you downloaded.

  2. Go to colab.research.google.com, select GitHub, search for and select agithasnoname/treasure
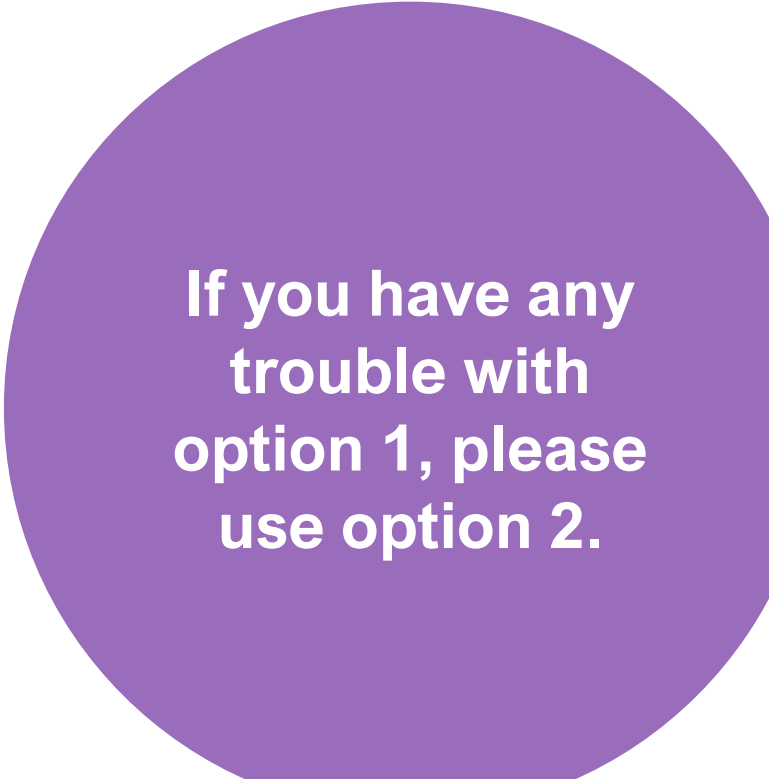
Snickerdoodle cupcake recipe included in the GitHub repo.

Lunch Lessons
are brought to you by
NUIT Research Computing Services

Have a programming or data question about your research?
We're here to help.
bit.ly/rcsconsult

Next Steps in Python: treasures from the standard library

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If you have any trouble with option 1, please use option 2.

the standard library

In addition to all the built-in functions, Python comes with a standard library – many individual libraries (aka modules, packages).

These have to be imported into your script or notebook if you are using them, but they do not need to be installed as they come with Python.

the standard library

https://docs.python.org/3/library/

Contains a list of all built-in and standard libraries

treasures

Let's go over some of the libraries that I have found the most useful.

Some of these will be the focus of summer workshops, but we will practice others in today's notebook.

re

"regular expressions"

Looking for specific (or partially specific) patterns in strings

Used for:

text analysis, data mining, genomic data

(summer Lunch Lesson topic)

json and pickle

store and load dictionaries, web data, temporary files

(summer Lunch Lesson topic)

html and xml

parse web data

threading and multiprocessing

parallelize code inside python to run on multiple nodes or cores!

Look out for a Python parallelization workshop in academic year 20-21

sys and argparse

take command line arguments into your Python scripts

Great for building pipelines and writing scripts that are reusable – run the same script on different files without changing the script

sys.argv is simpler, argparse has more features

os

run command line codes from within Python

make new directories, move files, change your working directory, etc.

examples today!

datetime

Find out the current date and time inside Python

Compare dates and times

examples today!

timeit

Time your code – find out which method is faster, or time how long code takes to run so that you can let others know

examples today!

math and statistics

Common mathematical and statistical functions – trigonometry, geometry, constants, etc.

examples today!

random

Get a random number, or a random item from a list

examples today!

treasure

Open up the Jupyter notebook treasure.ipynb.

If you have questions at any point during the session, post them in the Zoom chat. Dan will be monitoring.

Next Steps in Python

Summer schedule coming out very soon!

[Click here to get added to the listserv.](#)

List comprehension workshop – in case you missed it.

Python Fundamentals Bootcamp – tell your friends.

Python topics: text analysis, machine learning, Biopython, Data Visualization, more lunch lessons.

BYOD (Bring your own data) Working Group – advice, help, and accountability to finish a data project this summer.

Need help using Python libraries?

We're here to help. bit.ly/rcsconsult

Have any feedback or suggestions for other workshop topics?

SURVEY WILL BE EMAILED OUT TONIGHT. I appreciate your feedback.

For more Python resources, check out our blog