Seattle

Everything is better with friends

Executing SAS code in Python scripts with SASPy, and turbocharging your SAS programming with open-source tooling

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Class files: https://github.com/saspy-bffs

Overview

Agenda

- check software setup and form groups
- work through SASPy code vignettes
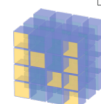- explore applications development options

Goal

- practice the steps needed to build and publish Free/Libre and Open Source Software (FLOSS) to GitHub

Flask
web development,
one drop at a time

pandas
$y_{it} = \beta' x_{it} + \mu_i + \epsilon_{it}$

NumPy

python

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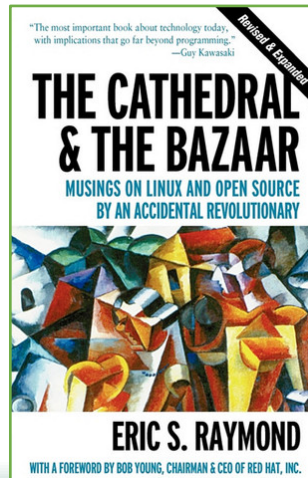WUSS | 2019

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Why FLOSS?

Richard Stallman's Four Freedoms

- run it as you wish
- study how it works; change it as you wish
- redistribute copies
- distribute copies of modified versions

Given enough eyeballs, all bugs are shallow.

— **Linus's Law**

Presenting: The Best of Both Worlds...

SAS + **python** = **SASpy** ❣️

Strengths	**Strengths**
Data Analysis	Scripting
Data Management	Web Dev
Statistics	FLOSS Community

SAS System V9 Interfaces

Display Manager

Enterprise Guide

SAS Studio

Batch Mode

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SAS System V9 Interfaces

Submits SAS Code

SAS Interface

SAS Kernel

Disk

Returns log and results

Reads/writes SAS datasets (as needed)
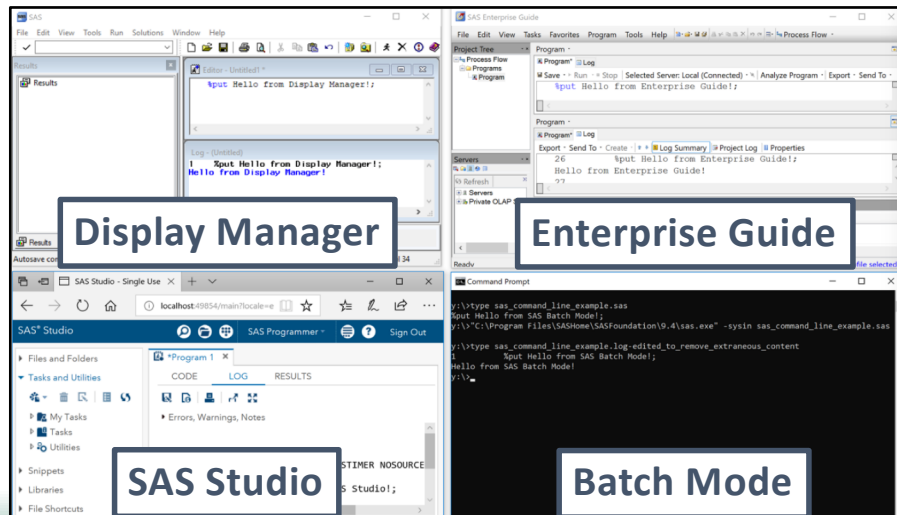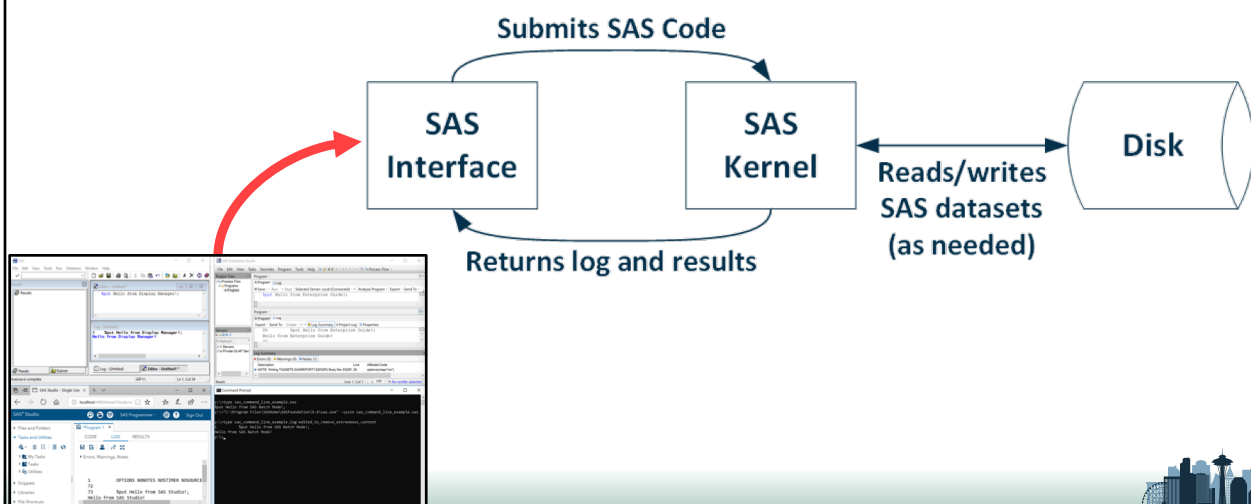
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The SASPy Architecture

Submits Python Code

Submits SAS Code (via SASPy)

| Python Interface | Python Kernel | SAS Kernel | Disk |

Passes SAS output for display   **Returns log and results**

Reads/writes SAS datasets (as needed)

PyCharm

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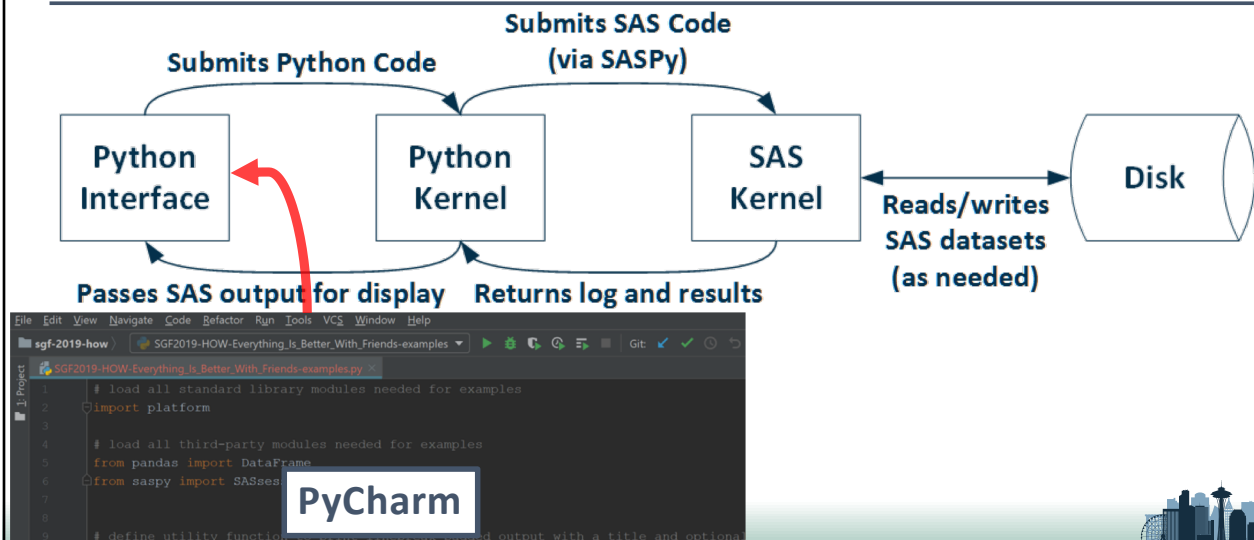
Setup Checklist (Part 1 of 3)

Prereqs

basic SAS knowledge

laptop w/ Internet access

wifi password
WUSS2019
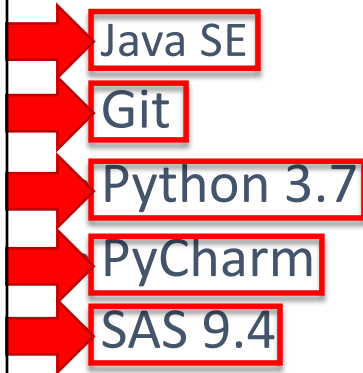
Want us to stop by?

stick to the back of your laptop

[Red Post-it Note]

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Setup Checklist (Part 2 of 3)

Software

- Java SE
- Git
- Python 3.7
- PyCharm
- SAS 9.4

Don't have it installed?

write the name of a **single** software program **not** installed on your laptop

stick to the back of your laptop

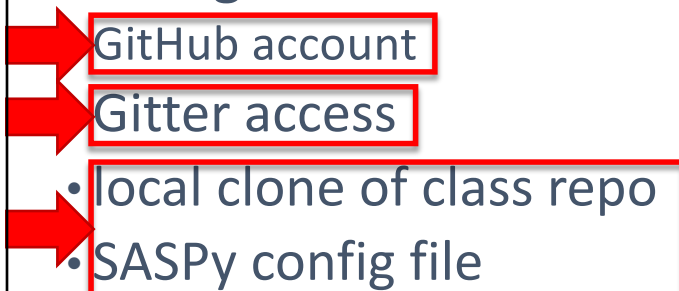[Orange Post-it Note]
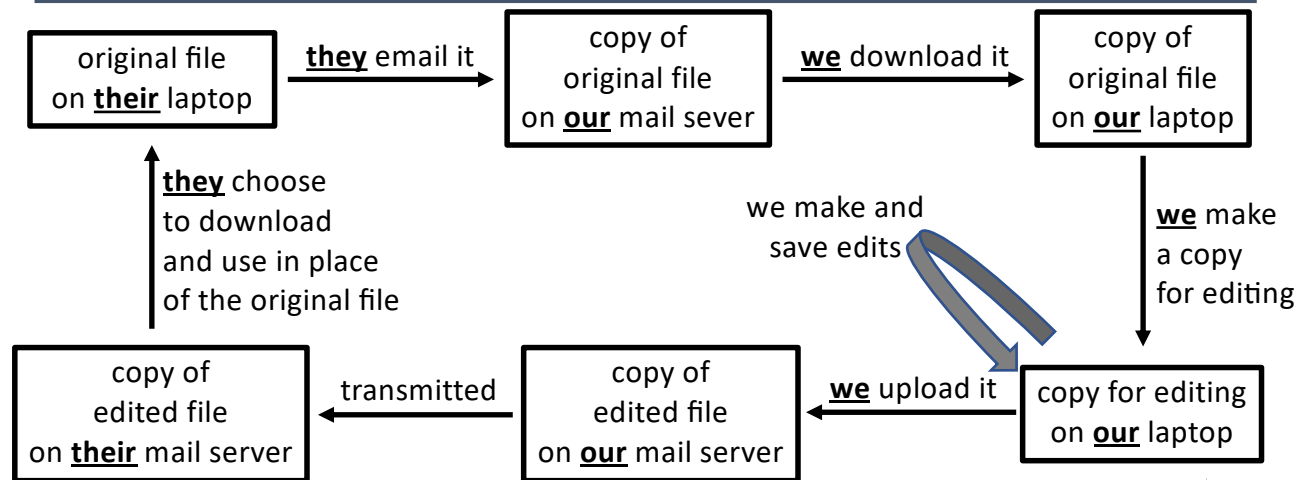

Setup Checklist (Part 3 of 3)

Tooling & Files

- GitHub account
- Gitter access
- local clone of class repo
- SASPy config file

Want us to stop by?

stick to the back of your laptop

[Red Post-it Note]

One Way to Collaborate on Project Files

| original file on **their** laptop | — **they** email it → | copy of original file on **our** mail sever | — **we** download it → | copy of original file on **our** laptop |

they choose to download and use in place of the original file ↑

we make and save edits ⟲

we make a copy for editing ↓

| copy of edited file on **their** mail server | ← transmitted — | copy of edited file on **our** mail server | ← **we** upload it — | copy for editing on **our** laptop |

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A Better Way to Collaborate using … GitHub!

| original repo on **their** GitHub | — we **fork** it → | fork of original repo on **our** GitHub | — we **clone** it → | local clone of forked repo on **our** laptop |

they choose to **merge** the PR ↑

we make and **commit** edits ⟲

we make a **branch** for editing ↓

| PR summarizing all changes that would occur on **their** GitHub if they merge it | ← we **open** a Pull Request (aka a PR) — | copy of edited branch on **our** GitHub | ← we **push** it — | branch for editing on **our** laptop |

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Now Working on Exercise Files

Want us to stop by?

stick to the back of your laptop

[Red Post-it Note]

Ready to move on?

stick to the back of your laptop

[Green Post-it Note]

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Now in Open Lab Time

Want us to stop by?

stick to the back of your laptop

[Red Post-it Note]

Ready to wrap up?

stick to the back of your laptop

[Green Post-it Note]

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Call to Action!

During WUSS

Keep in touch via Gitter

Complete our Survey

Attend our HOW on **Thur** in Bellevue I at **8:30 a.m.**

Attend FLOSS talks **Thur** in the West Seattle Room beginning at **1:30 p.m.**

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After WUSS

Replicate Class using repo

Attend our "Development Sprint" **Fri** in the Grand VII Ballroom at **1:30 p.m.**

Make GitHub a better place with your code!