

Sage Introduction & Setup

What it is:

Sage is free, open-source, comprehensive mathematics software built on Python. We will have four to five Sage programming labs spread throughout the course where you will put into practice the topics studied in class.

Where to get it:

You can install a local copy from <http://www.sagemath.org/> or make use of one of the many servers running Sage Notebook. Your labs will be posted (and turned in) on a server managed by the Mathematical Association of America (MAA) at <http://sage.maa.org/>. The Institute has set up a Sage server as well, but as of yet can't handle the traffic generated by this class. If you are interested in getting an account let me know and I can forward directions to you.

Follow the steps given below to access the MAA Sage Notebook and get a copy of the the SageIntro.

1. Click on the SageIntro link posted on the class website. (<http://sage.maa.org/home/pub/175/>) You should arrive at a website that looks like the following

[Log in to edit a copy.](#) [Download.](#) [Other published documents...](#)

OptionalSageIntro

1 minute ago by r.e.vanderpool

(Optional) Sage Introduction

2. Click on the link in the upper left to “Log in to edit a copy”.
You will be redirected to <http://sage.maa.org/>.
3. If you have an account skip to step 4, other wise,
 - (a) Select the link “Sign up for a new Sage Notebook account” on the right side below the login.
 - (b) Follow the usual website login creation/ login procedures.
 - (c) When prompted use the magic word that was written on the board in class.
 - (d) You will be redirected to your list of Sage Files.
 - (e) Skip to step 5.

4. (If you have an account)
 - (a) Log in with your username and password.
 - (b) You will be redirected to your list of Sage Files.
5. Again follow the Logic Lab link posted on the class website. (<http://sage.maa.org/home/pub/175/>) You should now see a website that looks much like before but with an “Edit a copy” link in the upper left.

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6. Click on the “Edit a copy” link in the upper left. The page should now look like the following:

(Optional) Sage Introduction

Except of course, your username will be at the top. This process copies the Sage Worksheet into your own directory so that you can modify your own version.

Labs:

Labs are to be completed in groups of three and only one copy is to be turned in by the process described below. The labs start off without a great deal of freedom while you get used to the new programming language and by the end of the course you will be writing your own Sage code. Feel free to create new worksheets and experiment with resources on the internet. Some useful (and admittedly mathematical) links are posted below.

How to turn labs in:

1. Make sure your names are on the worksheet.
2. Make sure you save your worksheet!
3. Return to your home file directory.
4. Find the file you would like to share and select “Share now” link on that line (near the middle).
5. Add `rvanderp@u.washington.edu` `r.e.vanderpool` to the dialogue box.
6. Click on Invite Collaborators.

Notes

- Save early and often as there is no automatic saving or data recovery methods.
- If you accidentally over edit your copy of the worksheet you can always return to the lab link posted on the class webpage and download a clean copy.
- The process outlined in “How to turn labs in” really is the process of sharing your worksheet with someone else. Consider using this process when working in groups if your group plans to work remotely.
- Beware of ‘blank space’. Python uses blank space for such things as nested loops. If you get an error in your code, make sure that you didn’t indent something accidentally.

Sage Resources & Cool stuff:

- <http://wiki.sagemath.org/quickref>
- <http://wstein.org/mathsoftbio/history.pdf>
- <http://wiki.sagemath.org/interact>
- <http://interact.sagemath.org/top-rated-posts>