

Ways to Use Sage

Theron J Hitchman

Department of Mathematics
University of Northern Iowa
Cedar Falls, Iowa

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Ways to Use Sage

The Official Sage Documentation List (for local installs):

<http://www.sagemath.org/doc/tutorial/introduction.html>

- ▶ Notebook Graphical Interface
- ▶ Interactive Command Line
- ▶ Compiled and Interpreted Programs
- ▶ Stand-alone scripts

And nowadays, you can use can use the cloud.sagemath.com service, or the single cell server!

The Big Question

What about these choices in an educational context?

Local Install

Benefits

- ▶ Speed
- ▶ Flexibility

Challenges

- ▶ Installation and upkeep is up to *each user*
- ▶ sharing files

Semi-Local: A campus notebook server

Benefits

- ▶ Easier for student to try
- ▶ Sharing features are built in: sharing is at the worksheet level; publishing is available

Challenges

- ▶ Installation and upkeep is up to *some user*
- ▶ filesystem is rudimentary
- ▶ students find a way to use the wrong server
- ▶ system not designed for "large" numbers of users. resource intensive on hardware (public server is often overloaded)

The Sage Cell Server

Benefits

- ▶ Extremely easy to use (no sign in!)
- ▶ Sharing features are built in: share urls only
- ▶ can be embedded in *any* web page
- ▶ serious work underway to integrate with WeBWork

Challenges

- ▶ No installation or upkeep
- ▶ single computations only
- ▶ access to "help" and "documentation" is in progress.
NO [tab] completion

The Global Solution: Cloud service

Benefits

- ▶ installation and upkeep are managed
- ▶ POWER
- ▶ Sharing features are built in: sharing is at the project level; public projects are “in progress”

Challenges

- ▶ overwhelming freedom for students without any skills
- ▶ It is in beta stage, and still undergoing some development.

A message from William Stein

If they ask about the possibility of commercial support/hosting –i.e., so that they don't have to worry about install/backups/etc.– let them know that I'm looking for business model(s) for <https://cloud.sagemath.com>, and I'm betting I could help "a college that is considering adopting Sage full scale", and at a price that is much cheaper than Mathematica site licenses, since Sage + cloud = much more efficient than 600-person company living off boxed software.