Computer Algebra Software on ACCESS

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11/1/2023

Motivation

Computer algebra software has beco an indispensable tool

Need for more powerful resources; RAM

Streamline the procedure

Main Platforms

Large Memory Nodes

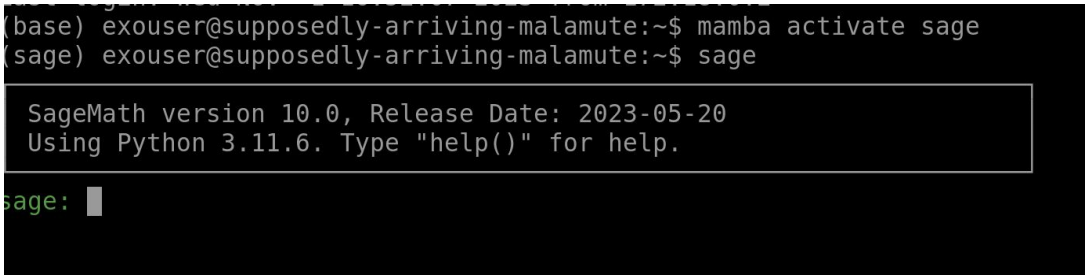
- Indiana Jetstream2 Large Memory | 1TB
- Kentucky Research Informatics Cloud (KyRIC) Large Memory Nodes | 3TB
- PSC Bridges-2 Extreme Memory (Bridges-2) | 4TB
- Purdue Anvil CPU | 1TB
- SDSC Expanse CPU | 2TB

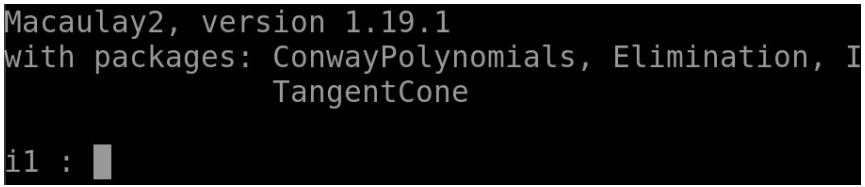
What's in tutorial

How to install and run SageMath and Macaulay2

Current status

- Command line installation on Jetstream2
- Singularity container on Expanse (image conversion in progress)


(base) exouser@supposedly-arriving-malamute:~$ mamba activate sage
(sage) exouser@supposedly-arriving-malamute:~$ sage
SageMath version 10.0, Release Date: 2023-05-20
Using Python 3.11.6. Type "help()" for help.
sage:


Macaulay2, version 1.19.1
with packages: ConwayPolynomials, Elimination, I
TangentCone
i1 :

To-dos

- Examples
- JupyterLab, resource monitoring
- Other HPC centers
- Multicore-compute nodes
- Tester

Mentor Bob Sinkovits, https://github.com/youngsu-Kim/access_cas_tutorial