

On the same Sage

BITS Goa

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The About Sage

The self proclaimed **S**ystem for **A**lgebra and **G**eometry **E**xperimentation. At least that's what the person who started it all, William Stein, [calls](#)¹ it.

The name sells it short, you can use it in analysis, differential equations, statistics and in a variety of other fields.

¹used to

Cross-check corollaries, cook-up conjectures, construct counterexamples.

Course related use-cases:

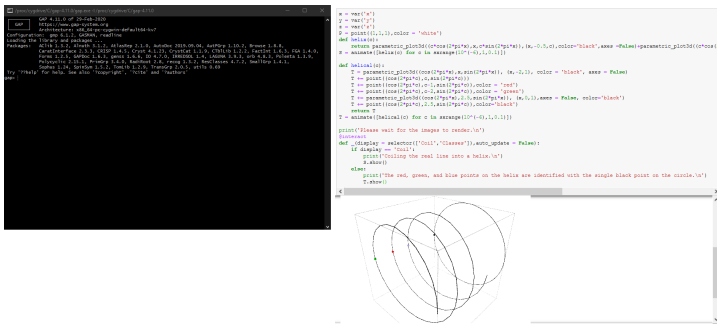
- No unforced errors in computation.
- More time to think about problems.

Sage(ing) other options

Other computational systems exist, like Maple and GAP.

Maple has a free trial but the full version comes with a price tag.

GAP is free, but:




Sage has GAP libraries built into it and with `matplotlib` you can make visualisations - something that GAP cannot do.

Two² online resources to learn SageMath for groups:

For the purposes of the group theory part of the course, this condensed version of the [manual](#) is a great resource.

William Stein has a great introductory [video](#) about SageMath for groups.

²There are many more, but these resources are good places to start from. 

Try it out

The practice programming problems provided in the tutorial sheets.