A few words on SageMath

Combinatorics 1M020

Xing Shi Cai

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Department of Mathematics, Uppsala University, Sweden

NOTE: SageMath will only be used in class to demonstrate some computations that can be done with computer. It is not going to be appear in the exam or assignment.

This tutorial is only mean for students who are curious about using computers in combinatorics and mathematics in general.

What is SageMath

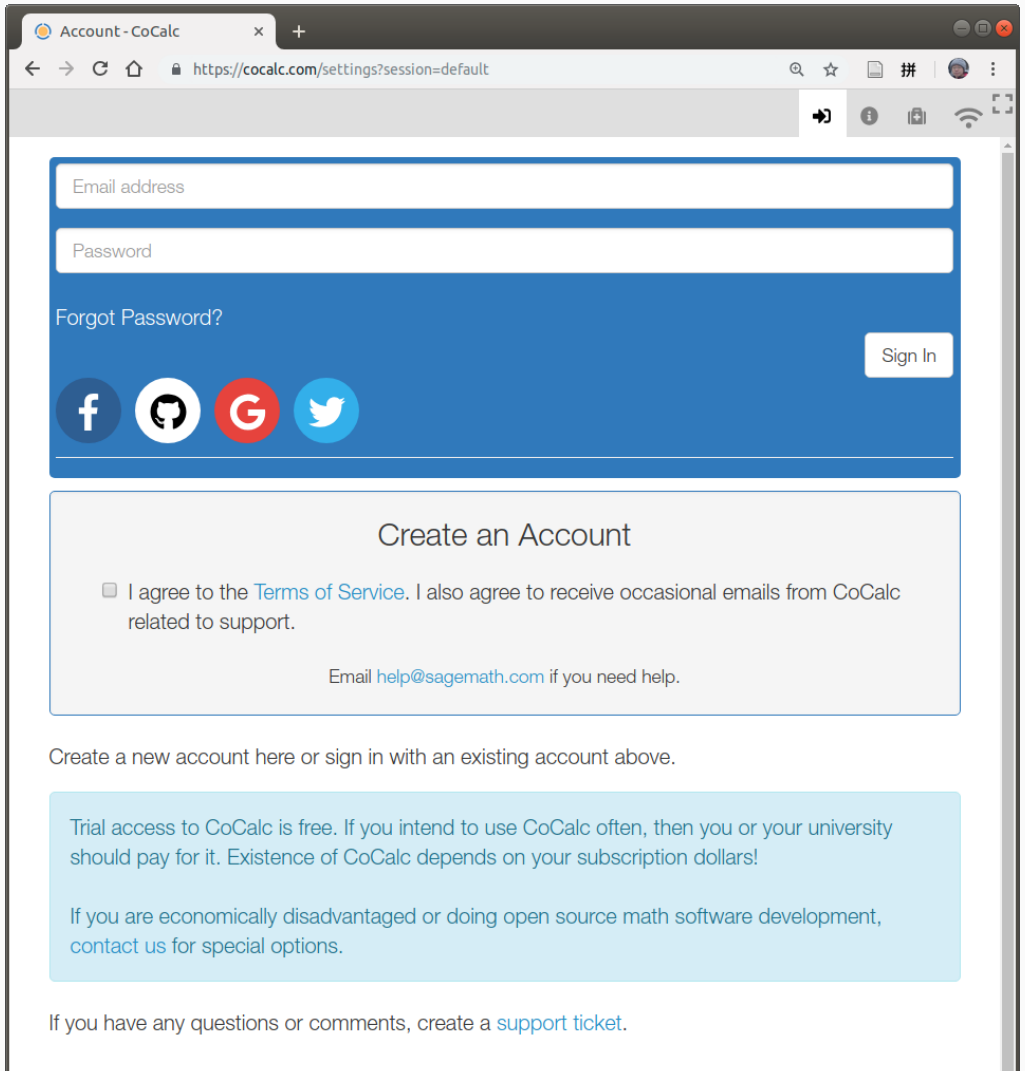
SageMath is a free open-source mathematics software system.

It includes many existing open-source packages: NumPy, SciPy, etc.

It meant to be a free open source alternative to Magma, Maple, Mathematica and Matlab.

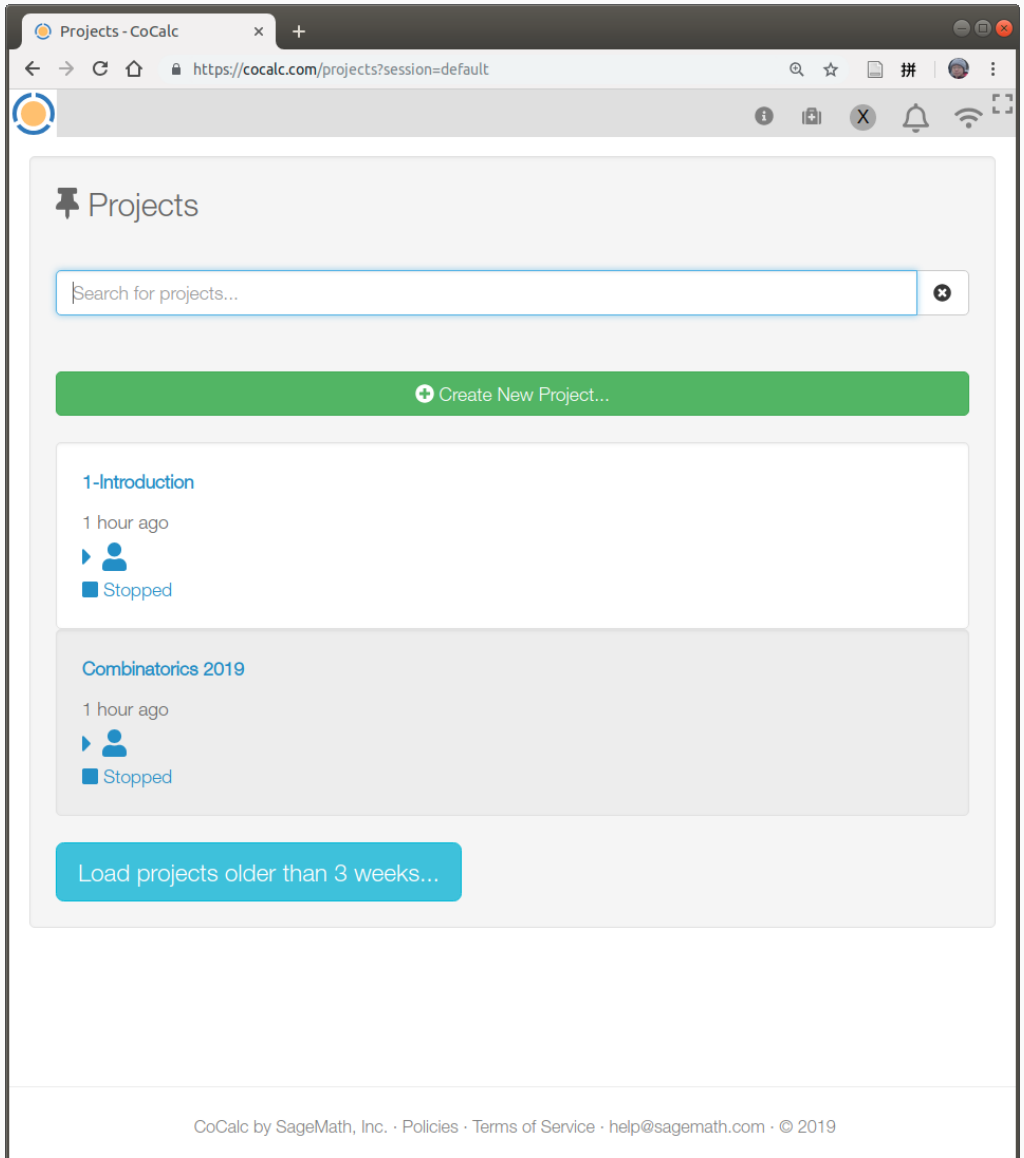
Cocalc – 1. Register

The best way to start is to try the online version at `https://cocalc.com`. You can register a free account.



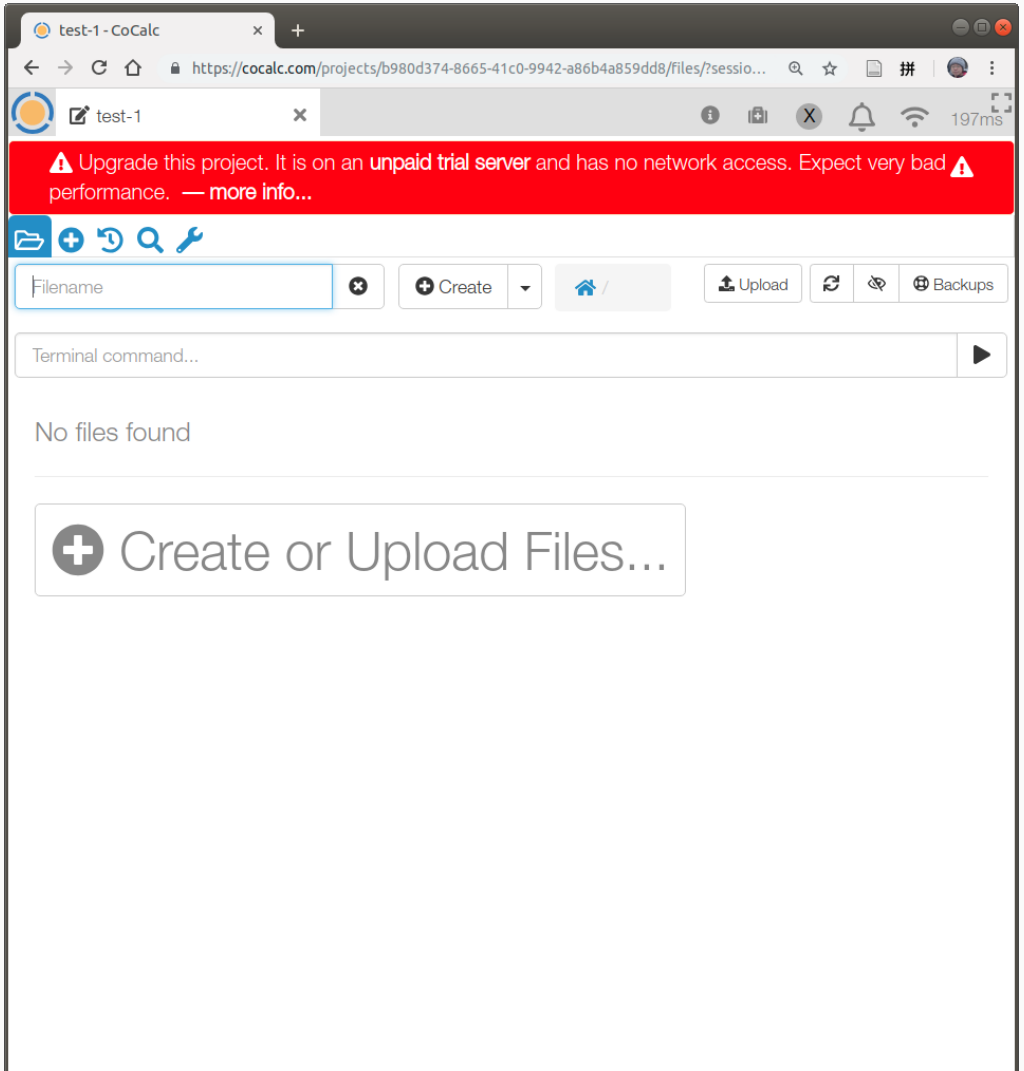
Cocalc – 2. Create a project

Once login, click “Create New project”.



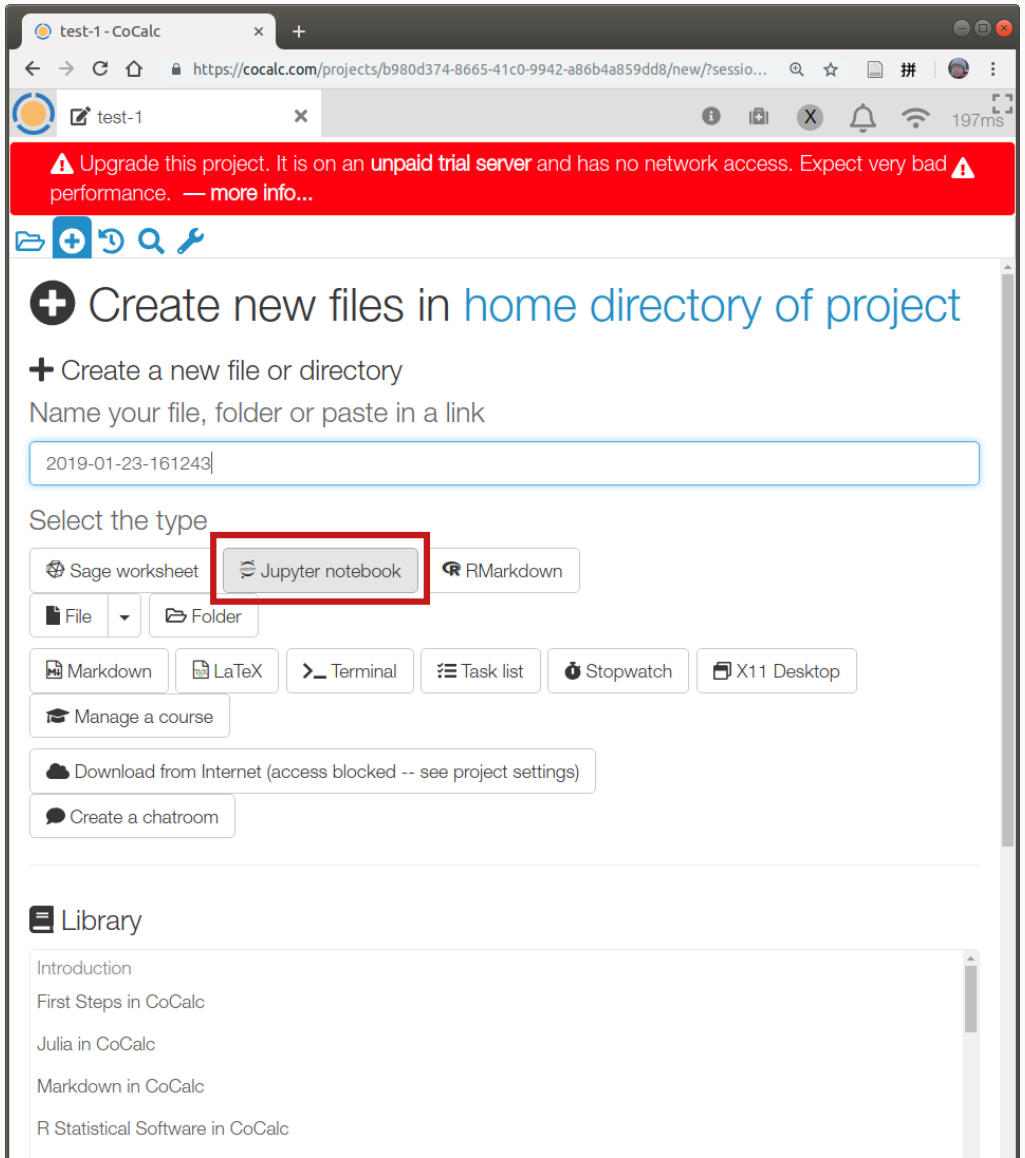
Cocalc – 3. Create or Upload Files

Once you have a project, click “Create or Upload Files”. Ignore the red warning.



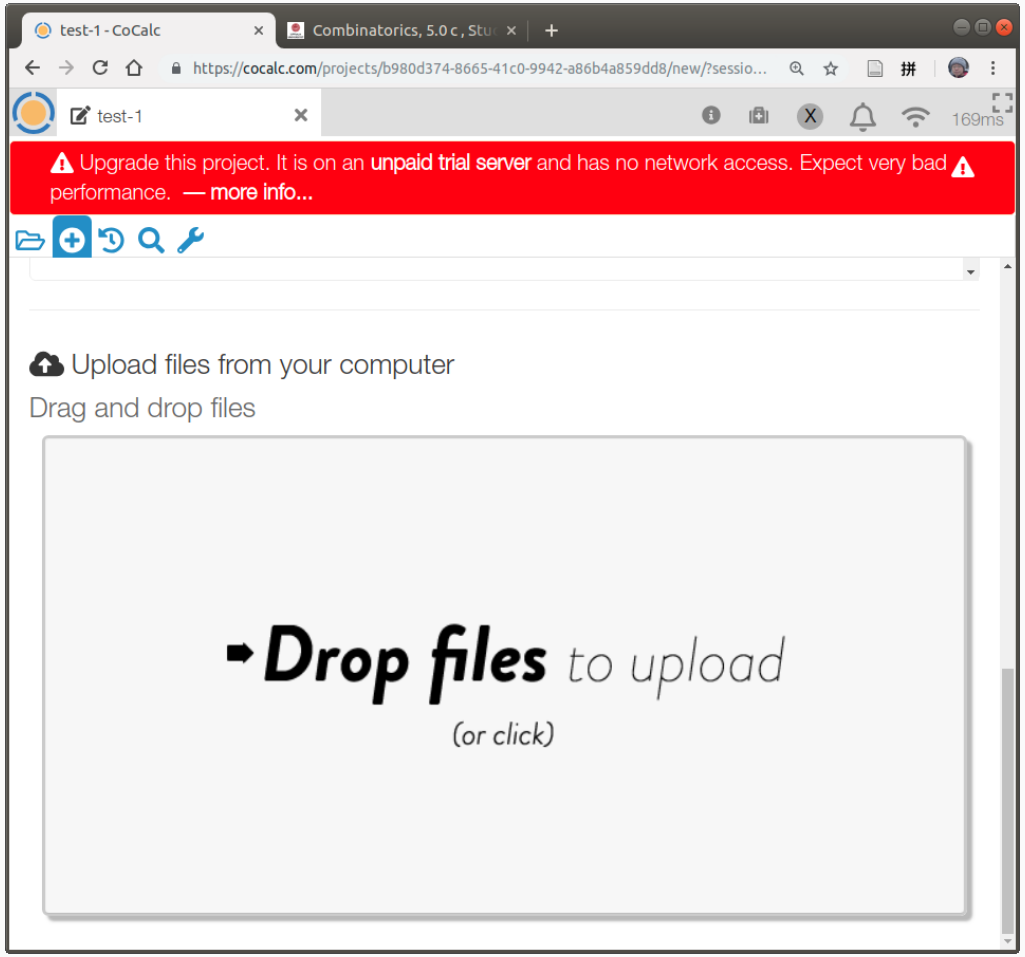
Cocalc – 4.a Create a Jupyter notebook

Next click “Jupyter notebook”.



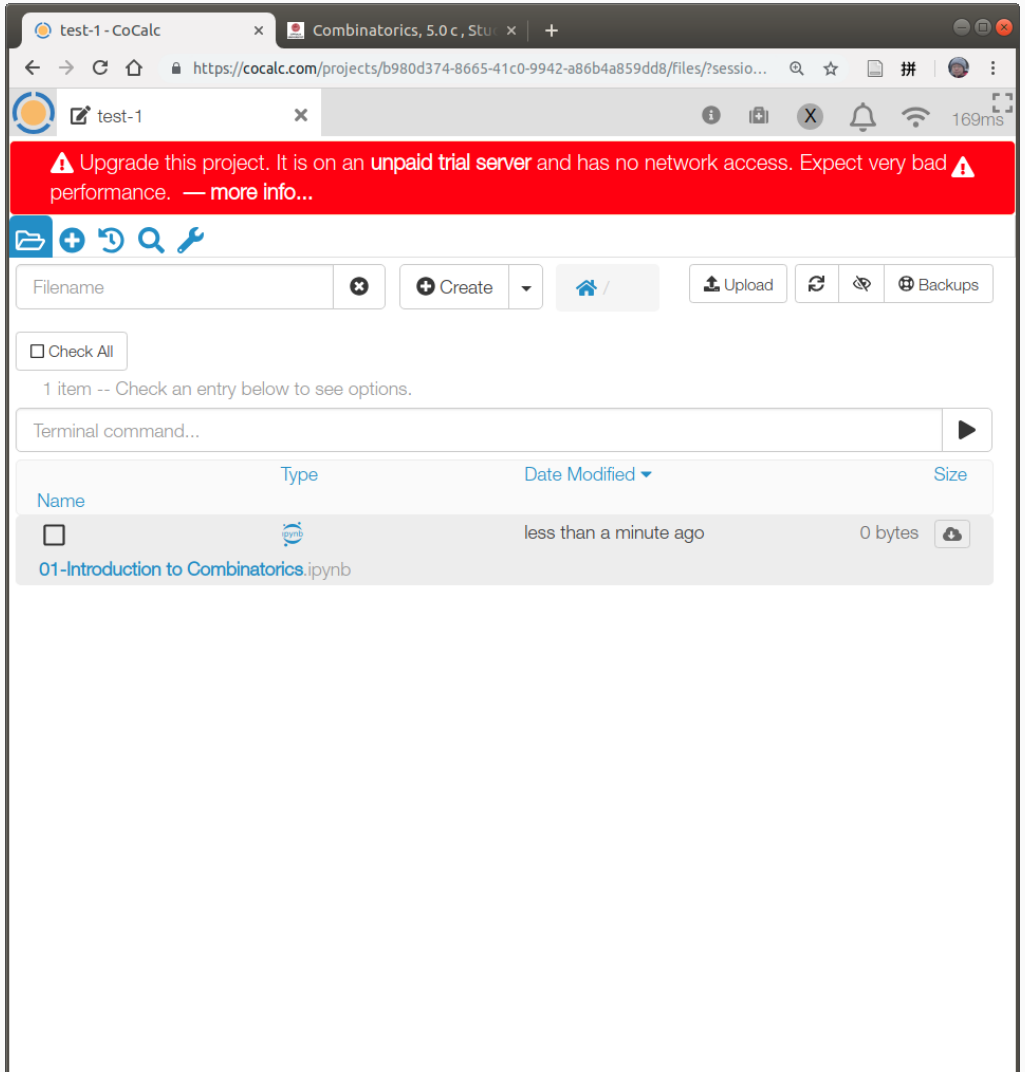
Cocalc – 4.b.1 Upload a Jupyter notebook

Alternatively, you can upload the notebooks, named *.ipynb, provided on studentportalen. For example this one. Scroll down on the page shown in step 3, and click “Drop files to upload” to do so.



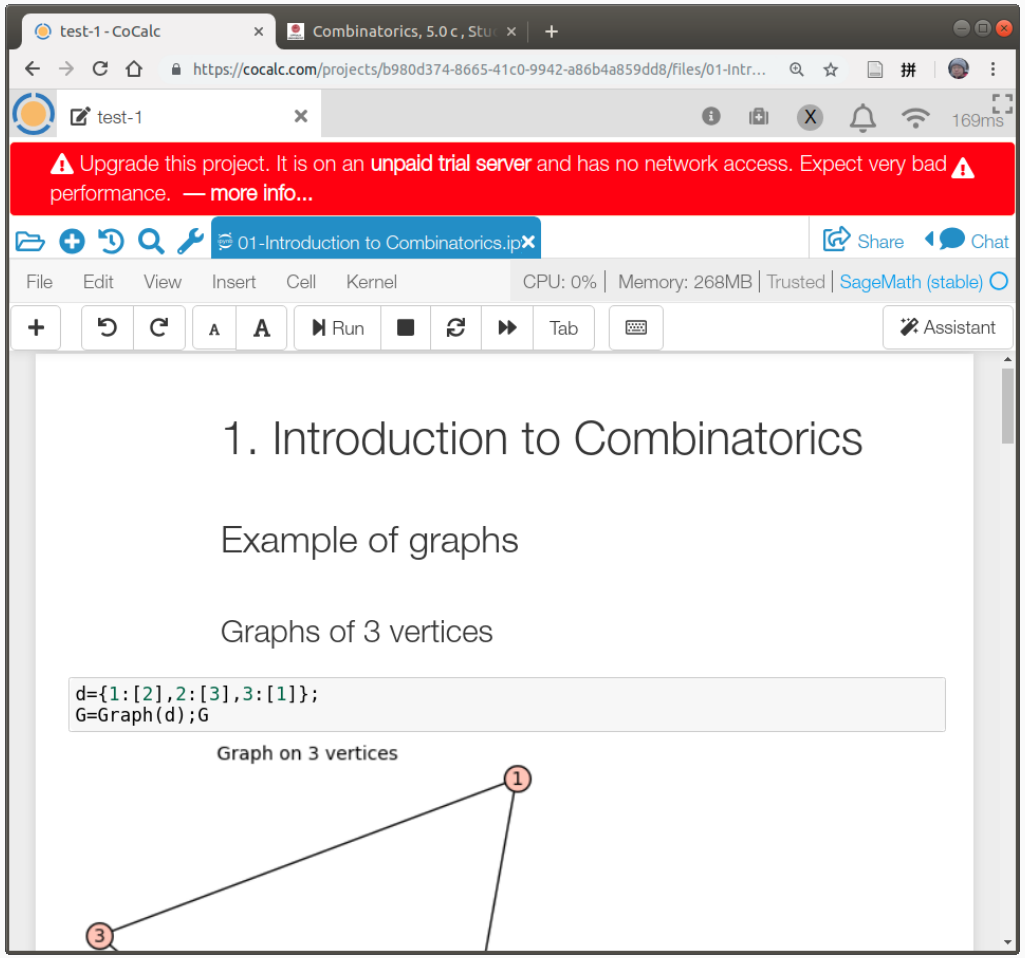
Cocalc – 4.b.2 Upload a Jupyter notebook

Once file is uploaded, click the file button, and you will see the uploaded file. Click it to open.



Cocalc – 5. A Jupyter notebook

Either way, now you have a Jupyter notebook that you can play with



Further reading

Quick tutorial of using SageMath in a Jupyter notebook.

Free textbook – Computational Mathematics with SageMath. Part IV of the book is on combinatorics.

Cocalc tutorial