Using LaTeX with Sage

Armin Straub

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This is just a quick example tex file. Isn't Euler's formula for $\zeta(2)$ beautiful?

$$\sum_{n=1}^{\infty} \frac{1}{n^2} = \frac{\pi^2}{6}$$

Using the package `sagetex`, we can let Sage compute for us: $2^8 = 256$

More interestingly, how about letting Sage produce more terms of $\zeta(s)$ when s is an even integer?

$$\left[\frac{1}{6}\,\pi^2, \frac{1}{90}\,\pi^4, \frac{1}{945}\,\pi^6, \frac{1}{9450}\,\pi^8, \frac{1}{93555}\,\pi^{10}\right]$$

Or, say, we are interested in the power series of the Bernoulli-like generating function $\frac{1}{2}x^2/(e^x - 1 - x)$. Sage reports that this series is:

$$1 - \frac{1}{3}x + \frac{1}{36}x^2 + \frac{1}{540}x^3 - \frac{1}{6480}x^4 - \frac{1}{27216}x^5 + O(x^6)$$

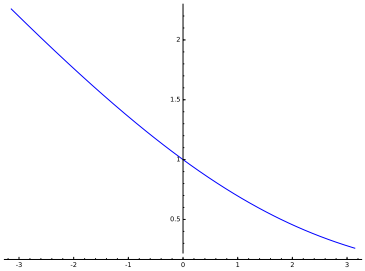
Sage code can be conveniently displayed (and executed) using `sageblock`:

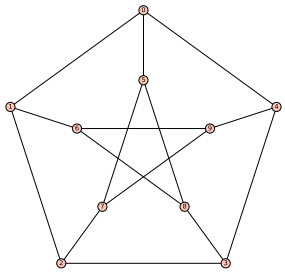
```
A=matrix([[1,2,3],[4,5,7]])
```

You can use `sagesilent`, as we actually did above, instead of `sageblock` if you do not want to produce any output.

The row-reduced echelon form of A is $\begin{pmatrix} 1 & 0 & -\frac{1}{3} \\ 0 & 1 & \frac{5}{3} \end{pmatrix}$.

Look into `sageplot` if you are interested in letting Sage create pictures (of any kind) for you.





Have fun!