Math 314 Submit to Gradescope and CoCalc
Homework 0

There are two kinds of cryptography in this world: cryptography that will stop your kid sister from reading your files, and cryptography that will stop major governments from reading your files.

— Bruce Schneier

This assignment has two parts, a LaTeX file and a SageMath assignment. The Latex half will produce a pdf document which should be downloaded and submitted to Gradescope. The second part is on SageMath. This part will be autocollected by CoCalc. (You don't need to do anything to submit.)

1. Getting Started

1. Use the email you received to sign up for a CoCalc account (or sign in if you already have one). (Note: you may choose to pay the fee to use CoCalc for the semester, which will make things run faster and get rid of the annoying red bar, but isn't required.)
2. After you create an account you will already be enrolled in the course. There will be a project with your name which is where individual assignments will be given. (You will also see a Group Project appear in the next few days as well.)
3. Inside your individual project you will find several folders. Open one called Homework and inside that a folder called Homework 0, which contains two files, `LatexAssignment.tex` and `SageQuestions.ipynb`.
4. First complete the steps listed in Section 2 below inside of the Latex file. Once you are done you will need to download the final pdf and submit it to Gradescope.
5. Then open the SageQuestions file and answer Problems 1-3 listed there.

2. Latex Assignment

Open `LatexAssignment.tex`. Put your name as author and title "Homework 0".

1. On the same line as the text of "Problem 1" in the latex file add the math expression:

   ```
   $3^2+\sqrt{4}=11$
   ```

2. For a more complicated expression you can put the math between double dollar signs and it will get displayed. On a new line below "Problem 2" put the code:

   ```
   $$\sum_{i=1}^n 1 = n$$
   ```

3. On the same line as "Problem 3" Write the sentence "Seven times five is congruent to nine modulo twenty-six, equivalently" Followed by the mathematical expression $7 \times 5 \equiv 9 \pmod{26}$. Make sure to make the math look right! (Hint: you'll want to use the commands `\times`, `\equiv` and `\pmod{26}`.)
4. On a new line below "Problem 4" Use double dollar signs and the command `\frac{a}{b}` to type the equation
$$\sum_{i=1}^{n} i = \frac{n(n+1)}{2}$$
5. Download the final pdf and submit it to Gradescope. To get full credit the resulting file should look like this.