LARSON—MATH 255–HOMEWORK WORKSHEET 09
Bard's Sage Book—Problems.

1. Log in to CoCalc.
   (a) Start the Chrome browser.
   (b) Go to `https://cocalc.com`
   (c) Login (**your VCU email address** is probably your username).
   (d) You should see an existing Project for our class. Click on that.
   (e) Click "New", then "Worksheets", then call it **h09**.
   (f) **Annotate your work carefully and completely. The more explanation the better!**.

Problems

2. Try the problem at http://projecteuler.net/problem=8. How will you get that number into your program??? Do not type it in by hand.
3. Analyzing the Dodecahedron graph
   (a) Let G be the built-in Dodecahedron graph.
   (b) Make a picture of that graph.
   (c) Find the `order` of G. (What is the definition of that graph theory term?)
   (d) Find the `size` of G. (What is the definition of that graph theory term?)
   (e) Find a maximum stable set of G.
   (f) Explain why your set is stable. (What is the definition of that graph theory term?)

Bard's Sage Book

The following readings and related work come from Gregory Bard's *Sage for Undergraduates* (published by Springer and also on Prof Bard's web page). Here's a link: `http://www.people.vcu.edu/~clarson/bard-sage-for-undergraduates-2014.pdf`

4. **Sections 5.1 & 5.2**. As you read through these, **run all the code** that you see. Annotate appropriately. In particular I should be able to determine what section/subsection of Bard's book your code snippets came from. Make sure that the code runs—or get help.

   If you are cutting and pasting you will discover that you have to re-type all the apostrophes, and put the code back on appropriate lines. Fix it up.

Important Note:. When Prof Bard's book was written `print` commands like the following worked:

```
print "Hello World!"
```

This (Python-2 style) `print` syntax is no longer supported in Version 9.x of Sage. The (Python-3 style) `print` command requires parentheses:

```
print("Hello World!")
```

5. Change all of Bard's `print` commands to Python-3 style as you work through this text.

Getting your homework recorded

When you are done writing up your nicely annotated code examples...

(a) Click the "Make pdf" (Adobe symbol) icon and make a pdf of this worksheet. (If Cocalc hangs, click the printer icon, then "Open", then print or make a pdf using your browser).

(b) Send me an email with an informative header like "Math 255—h09 worksheet attached" (so that it will be properly recorded).

(c) Remember to attach your homework worksheet!