

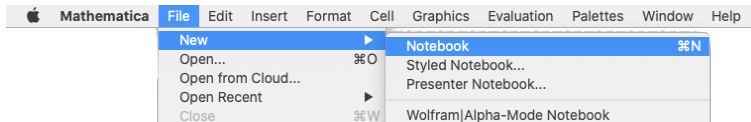
Physics 651: Assignment 0

(not for submission)

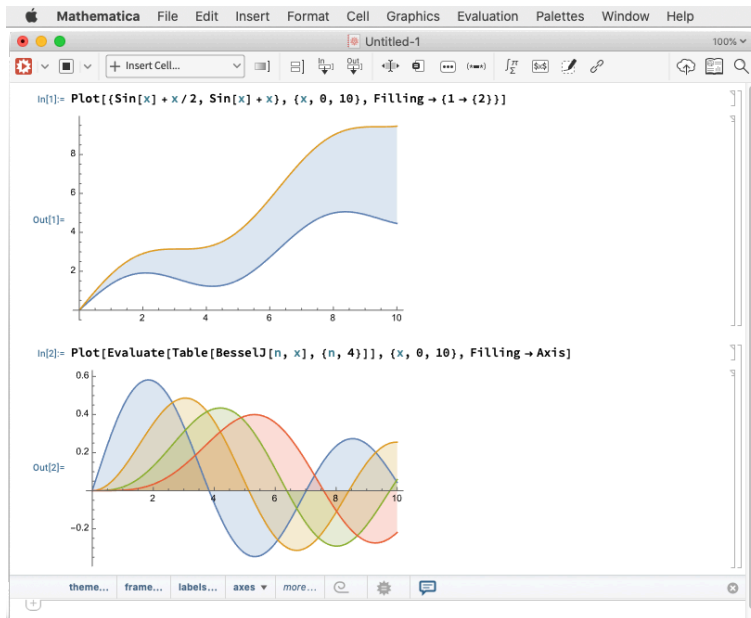
1. Installation instructions for *Mathematica* are provided on the [class website](#).
2. Start up the *Mathematica* front-end application. This is the interface that sits atop the *Mathematica Kernel*, which is the underlying computational engine.



3. Open a new *Notebook*.



4. Try creating some simple graphics with the `Plot` function. Note that pressing `enter` or `return` on your keyboard will produce just a bare line-feed/carriage-return. To get *Mathematica* to interpret and execute a line of code, you will have to type `shift + return`.



5. If you are completely new to this, have a look at the videos [Getting Started in Mathematica](#) and [2D Plotting](#). There is also a gallery of [screencasts](#) on the Wolfram website and a large collection of [course videos](#) at Wolfram U.
6. Note that while *Mathematica* supports a more conventional procedural style (what you're used to in python, C++, etc), it's really designed for so-called functional programming. This [summary page](#) might be useful for you. Functional programming is powerful, expressive, and compact. It's sometimes hard to parse if you're not used to it. For instance, here is the bifurcation diagram of the [logistic map](#):

```
Logistic[x_, r_] := r x (1 - x)
LogisticLast[x0_, r_, iters_] := Nest[Logistic[#, r] &, x0, iters]
ListPlot[Table[LogisticLast[k/7.0, #, 1000] & /@ (Range[400]/100.0), {k, 1, 6}]]
```

In a few weeks, this will look much less mysterious!