R Profiler Notes

1. Tool in R that analyzes steps in larger programs to discover inefficiencies and speed up processing.
   1. Useful for optimizing a code
2. Often a code runs fine through one loop, but what about when it runs 10,000 iterations in a loop?
   1. Use profiling instead of guessing how well it will run
3. Optimizing Code (scientific method of programming)
   1. Step 1: don’t. Just write the code.
   2. Step 2: run performance analysis (profiling) on said code
      1. Premature optimization is the root of all evil
   3. Step 3: Measure by collecting profiling data, do not guess.
4. system.time()
   1. takes an expression (as simple as a function or as difficult as a whole code) and returns the amount of time taken to evaluate the expression
   2. gives time it takes for an error to occur, if error is found
   3. gives **user time**: the time charged to the CPU for the expression to run
   4. also gives **elapsed time**: the “wall clock” time