CS 702, Spring 2007
Assignment #3
Distributed Programming with Jelly Beans

Due 4/25/07, in class

Introduction
Centralized algorithms are easy to write and understand, but have the drawback that they have a single point of failure. Truly distributed algorithms are harder to write and understand, but lack this “central” drawback. Write a program for truly distributed jelly bean balancing (at some point each house has the same number of jelly beans) in a neighborhood of five houses.

Hints
(1) You might want to write a more formal problem statement.
(2) You might want to write the centralized version first.

What to hand in
(1) A 2-up listing of your well-formatted program.
   You might use something like
   
   a2ps -T 4 -q -Avirtual -2 -o mycode.ps <files>
   
   and then preview the page breaks and general appearance using gv mycode.ps.
(2) Some 2-up annotated sample output. Each output line should be prefixed with the time and house name. This allows all outputs to be easily merged sorted and annotated.
(3) (Extra Credit: at what point can you expect each house have the same number of jelly beans?)
(4) (More Extra Credit: run your program on a heterogeneous collection of machines. Does this have any effect?)

Notes
(1) Each house starts with a random number of jelly beans.
(2) Test your program using five different machines.
(3) I used the command line arguments “my_number[0…n-1] host_0 host_2 host_3 … host_(n-1)”.
(4) Socket are part of the Java library. I have some C socket code. For other language your on your own :)