

Due: beginning of class, Tuesday, February 13

The goal of this lab is to get you to start thinking like a Cognitive Scientist. Your assignment is to formulate and test hypotheses about the functioning of the “Black Box” program. Specifically, we want you to try to discover the algorithm by which the program turns stimuli into responses.

You will keep (and then type up) a journal of your “experiments.” This should consist of four columns recording the two input stimuli, the response, and the response time, as well as annotations indicating the hypotheses you are testing and the conclusions you draw from your tests. Here is an example excerpt:

Stim 1	Stim 2	Resp.	RT	
...				
7	2	14	375	
2	8	16	535	
2	9	18	641	←Looks like the RT goes up as Resp goes up. I'll try to verify with a couple more.
2	6	12	542	←Hmm. That's longer than 2 x 7. I wonder if...
...				

The diary part should not exceed 3 pages. If you find yourself requiring more than this, please present excerpts from your diary that show the tests that were most important in testing your hypotheses. At the end of the paper, please summarize in a couple of sentences your best guess about what the underlying algorithm is.

You are to work on this assignment without discussing it with other students (honor code guidelines apply), but you may seek help from the instructor or the TA. Points will be based on completion of the assignment and demonstration of a good-faith effort to uncover the algorithm, *not on the correctness of your hypotheses or final guess.*

Total length should be no longer than 3 pages, double-spaced, in 12 point Times font (like this one), with 1 inch margins all around. Pages should be stapled!

The program is available on Blackboard and on the computers in BSC 340. It runs only on Apple computers – specifically under Mac OS X on *pre-Intel*-based machines, such as those in BSC 340 (preferred) and TCL 217. Please see Prof. Danyluk for a login ID and password if you plan to work in TCL 217. Please report bugs, errors, or problems to Prof. Kirby.