Your Assignment (I)

Is to write a **C++** or **Java** program that checks for safety and response of a finite-state program involving processes 1 and 2. The program should:

- Generate and print the program graph (nodes and labelled edges) of the program (states should be generated until exhausted or safety violation is obtained)
- Generate and print graph that includes only $\neg q$-states that are reachable from $p$-states
- Perform MSCC removal until failure or empty graph
- Print every removed MSCC
- If failure, print offending MSCC
Your Assignment (II)

- Run your program on the algorithm we saw in class
- Try to flip the two assignment statements at locations 1 and 2 and then try to prove safety and response
- Try to keep your program modular so that you can use it for other algorithms (which we may do later on)

Extra Credit.
1. Design another solution to the problem (e.g., that does not use shared variables)
2. Verify your solution using the program
Misc.

- Assignment is due February 24
- Alex will post information as to how to hand it in
- Alex will be available for help; if necessary, he will hold several office hours
- You can contact him at sasha1979@yahoo.com
General Rules

- You may work in groups of up to four students.
- If you do work in a group, your assignment has to include a statement as to who did what.
- The larger the group, the better the assignment should be.
- If you do use outside sources, you have to reference them.
- You are not to use someone else’s program.
- When in doubt, ask!