Alvin Mao (andrew id: asmao)
Kevin Dou (andrew id: khd)
Final Project Proposal
Due: 10/9/14

Team: ASM Simulator

Overall Description:
For our project, we plan on creating an assembly (ARM) simulator. Ideally it will look like a debugger displaying the stack, current frame of main memory, registers, and other information to help simulate assembly code.

Base Requirements:

- User Account Stuff
  - Register/Login/logout
  - View own account settings
  - Edit own account settings
  - Have 2 types of accounts: basic and advance. The basic
- Fake Computer System
  - Screen to enter ASM program
  - Displayed register (includes PC and SP)
  - Displayed memory - here we will have a stack mode and program memory mode represented by 2 buttons. This allows the user to quickly jump in between the stack and the program. If the user manually scrolls from one location to the other we need to update this accordingly.
  - Displayed condition flags
  - Only instructions to be covered: basic move, arithmetic, and branching instructions.
  - Breakpoints with dynamic updating (no refreshing).
- File IO
  - Upload files to run.
  - Save files.
  - Download written files.

Other features

- Share on facebook, twitter, etc…
- Include a list of problems that to be solved via our simulator (think of Project Euler). From here we can branch off and scale out to become Project Euler with an assembly simulator.
- Users are save and view others' uploaded assembly files, as well as search for assembly files that have been uploaded.