Case Project: ALU simulator

Deadline: **December 2, 2014 (Tuesday), Class time**

Requirements:

- Maximum of four students per group
- Chose one of the topics below (to be determined during class time)

Topics:

1. Tic-Tac-Toe program in x86 assembly language
2. File manager in x86 assembly language (create/remove directory, copy/move/delete file, open file)
3. Non-Restoring 16-bit Unsigned Division simulator (accepts both decimal & binary input)
4. Restoring 16-bit Unsigned Division simulator (accepts both decimal & binary input)
5. Sequential Circuit Unsigned Binary Multiplier 16-bit simulator (accepts both decimal & binary input)
6. IEEE-754 Single Precision floating point converter (accepts binary mantissa with base-2 exponent)
7. IEEE-754 Double Precision floating point converter (accepts binary mantissa with base-2 exponent)
8. IEEE-754 Decimal-32 floating point converter (accepts decimal and base-10)
9. IEEE-754 Decimal-64 floating point converter (accepts decimal and base-10)
10. IEEE-754 Single Precision floating point **translator** (accepts either 8-digit hex input or 32-bit partition binary input)
11. IEEE-754 Double Precision floating point **translator** (accepts either 16-digit hex input or 64-bit partition binary input)
12. IEEE-754 Decimal-32 floating point **translator** (accepts either 8-digit hex input or 32-bit partition binary input)
13. IEEE-754 Decimal-64 floating point **translator** (accepts either 16-digit hex input or 64-bit partition binary input)