Assembly programming for the reverse engineer

Quebec, October 2017

Hello world! Who are you?

Marc

- Graduated from University of Sherbrooke;
- Been out of university for about 5 years and working at CSE ever since;
- Avid code critique and advocate for good taste in coding;
- Has a passion for system programming (but secretly hopes to become a web dev…);
- Serious Miata enthusiast (this is the most important part).

Philippe

- Graduated from Cegep Ste-Foy and attended University Laval;
- Been out of school for nearly 9 years and worked a mix of private sector jobs before started working at CSE 3 years ago;
- Has a strong interest in reverse engineering;
- Has a passion for code performance;
- Still play with Legos from time to time.

Both enjoy arguing with each other about code style or compilers among other things.

About the course

- This is an introductory course on assembly programming
  - We will be working with software reverse engineering but the point is to learn more about assembly in order to get better at reverse engineering
- We will work with x86, x64 and ARM
  - The first 2 days are dedicated to learning the concepts of assembly
  - The last day we explore x64 and ARM
- The whole training has been built around a simple process
  - Learn something easy
  - Reverse something easy (if needed)
  - Implement an easy thing based on what you learned
  - Repeat with something a little bit more advanced
- Everybody will write, build, run and debug assembly code

Schedule

Day 1	Day 2	Day 3
Introduction to x86 Using the memory Building logical code Learning about the tools	Function calls System calls Reversing shellcode Data structures Object oriented programming	Floating point and vectorization Intro to x64 Intro to ARM Challenge ourselves!

We will try to stick to this. However, it is possible that some content get removed due to time constraints.

Do you have any questions?