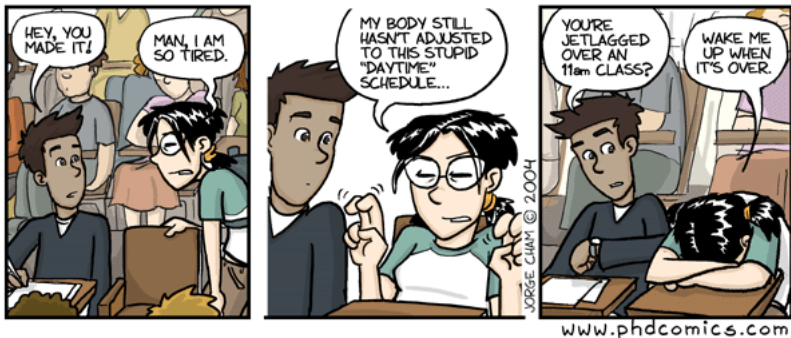


Introduction

L25: Modern Compiler Design



Course Aims

- Understand the performance characteristics of modern processors
- Be familiar with strategies for optimising dynamic dispatch for languages like JavaScript and Objective-C
- Have experience with algorithms for automatically taking advantage of SIMD, SIMT, and MIMD parallelism

Course Structure

- 8 Lectures
- 8 Supervised practical sessions
- Hands-on work with the LLVM compiler infrastructure

Assessment

- 4 short exercises
 - Simple pass / fail
 - Due: October 29th, November 5th, November 19th
- Longer assessed mini-project report
 - Up to 4,000 words
 - Approved proposal Due: November 14th
 - Writeup due: January 13th

LLVM

- Began as Chris Lattner's Masters' project in UIUC in 2002, supervised by Vikram Adve
- Now used in many compilers
 - ARM / AMD / Intel / nVidia GPU shader compilers
 - C/C++ compilers for various platforms
 - Lots of domain-specific languages
- LLVM is written in C++11. This course will not teach you C++11!

Questions?