

# Lecture 5+6

## Assemblers

*CS 241: Foundations of Sequential Programs*  
Fall 2009

Troy Vasiga et al  
University of Waterloo

# Overview

- ▶ Input to an assembler
- ▶ Output from an assembler

# Stages to an assembler

# Defining assembly language

- ▶ informal description: see website
- ▶ formal description: later

# Basic assembly language syntax and semantics

- ▶ syntax
- ▶ location and labels

# Analysis (First pass)

# Synthesis (Second pass)

# Error checking

# A little bit about bits

# A gift

`Asm.java` or `asm.ss` or `asm.c` or `asm.cc`

# How to write an assembler

Slowly.