

Lecture 2

Machine language

Let my machine talk to me...

CS 241: Foundations of Sequential Programs
Fall 2009

Troy Vasiga et al
University of Waterloo

Unix (and all operating systems)

Bit sequences matter!

Lots of ways of Unix-ifying your Windows machine:

- ▶ cygwin (and use `ssh -Y yourname@cpu04.student.cs.uwaterloo.ca`)
- ▶ Linux Live CD
- ▶ install your own linux
- ▶ putty

Grouping of Bits

Larger Groupings of Bits

Demo

Machine Language

- ▶ Instructions to the machine
- ▶ MIPS: 18 different 32-bit instructions encoded in two basic instruction formats

Our Machine: A Stored Program Computer

Memory (RAM)

A word about words

Communication between CPU and RAM

MIPS as a Programming Languages

Examples

See website.

Machine Cycle