Software Development Tools

IDEs
Revision Control
Using GitLab and Git
Integrated Development Environments

- A rich context for software development
  - Examples: Eclipse, IntelliJ, VisualStudio, XCode
- Syntax highlighting, continuous compilation, testing, debugging, packaging
- Powerful refactoring capabilities
Revision Control

- Indispensable software engineering tool
- Solitary work
  - Personal audit trail and time machine
  - Establish when bug was introduced
  - Fearlessly explore new ideas (roll back if no good)
- Teamwork
  - Concurrently develop
  - Share work coherently
Git

• Distributed version control system
  – hg, git, others (conceptually very similar)
• Contrast with centralized version control
  – cvs, svn, others

We will focus on distributed version control systems and not discuss centralized version control any further.
Git & GitLab

Introduction to Software Systems 1110/1140/6710
IntelliJ Git Integration

• Create a new repository:
  – VCS->Import into Version Control->Create Git Repository…
• Clone an existing repository:
  – VCS->Checkout from Version Control->Git…
• Other operations:
  – VCS
  – VCS->Git
  – right mouse click -> Git