Section 2: Developer tools and you

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Outline

• Introductions
• IDEs – Eclipse
• Source control – SVN
• Demo + questions
What is Eclipse?

- Integrated development environment (IDE)
- Allows for software development from start to finish
  - Type code with syntax highlighting, warnings, etc.
  - Run code straight through or with breakpoints (debug)
  - Break code
- Mainly used for Java
  - Supports C, C++, JavaScript, PHP, Python, Ruby, etc.
- Alternatives
  - NetBeans, Visual Studio, IntelliJ IDEA
What is Subversion?

• Source/version/revision control
• System for tracking changes to code
  o Software for developing software
• Essential for managing projects
  o See a history of changes
  o Revert back to an older version
  o Back up your work
  o Merge changes from multiple sources
• Alternatives
  ✓ Git, Mercurial, CVS
  × Email, Dropbox, USB sticks
Source control organization

- A repository stores the master copy of the project
  - Someone creates the repo for a new project
  - Then nobody touches this copy directly
  - Lives on a server everyone can access

- Each person checks out her own working copy
  - Makes a local copy of the repo
  - You’ll always work off of this copy
  - The version control system syncs the repo and working copy (with your help)
Source control
common actions

Most common commands:

- **Commit / checkin**
  - integrate changes *from* your working copy *into* the repository

- **Update**
  - integrate changes *into* your working copy *from* the repository
More common commands:

- **Add, delete**
  - add or delete a file in the repository
  - just putting a new file in your working copy
  - does not add it to the repo!

- **Revert**
  - wipe out your local changes to a file

- **Resolve, diff, merge**
  - handle a conflict – two users editing the same code
How to use Subversion

- Eclipse plugin: Subclipse
- GUI interface: TortoiseSVN, NautilusSVN
- Command line
This Quarter

• Use Subversion for your homework assignments
• We distribute starter code by adding it to your repo
• You turn in your files by adding them to the repo and committing your changes
DEMO TIME

<table>
<thead>
<tr>
<th>Shortcut</th>
<th>Purpose</th>
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<tbody>
<tr>
<td>Ctrl + D</td>
<td>Delete an entire line</td>
</tr>
<tr>
<td>Alt + Shift + R</td>
<td>Refactor (rename)</td>
</tr>
<tr>
<td>Ctrl + Shift + O</td>
<td>Clean up imports</td>
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<tr>
<td>Ctrl + /</td>
<td>Toggle comment</td>
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