Learning to program
Learning to program

• One learns to program by doing.
  – Writing your own programs
  – Reading others programs
  – Studying good programs written by others
  – Getting lots of feedback about your own programs
Peer Evaluation

• You can’t learn to program unless you write programs.
• You learn to write better programs by getting feedback.
• I can’t give enough feedback to a class of any large size.
• Peer evaluation is utilizing students to provide feedback to other students about their programs.
• This is serious business
  – Both the program author and the peer evaluator can learn a lot from this practice.
Pair programming

• Work in pairs.
• Two sets of eyes and brains is better than one.
• One person “drives” – works the keyboard.
• One person “navigates” – decides strategy and looks for errors.
• Switch roles at least every half hour.
• Think before you type!
Code walk throughs

• The author of a program explains his code line by line to a group evaluators.

• The evaluators
  – ask questions about what they don’t understand
  – Suggest improvements to code
  – Suggest code restructuring

• Code structure (use of abstractions, functions, modules etc), comments, indentation are all subject to suggestion.
The programming resource link
In class programming worksheets

• We will often use worksheets in class
  – Go to the programming resource link page
  – Download the worksheet to your own computer
  – Work in pairs to complete the worksheet.
  – When your pair is finished. Get up from your table and find a pair that could use some assistance.
  • Over their shoulder (don’t touch the computer!) help them to finish the worksheet
  – When everyone is standing we’ll move on to the next unit.
Using resources

- Study the resources provided.
- Try and recognize what makes a program good.
- Learn the “structure” of programs. Many errors are silly misspellings or forgotten punctuation.
- **Always ask for help!** Many times another pair of eyes will immediately see what’s wrong.