Lab 1 Goals

- Set up environment (profile and shell) in wiliki
- Explore Unix environment (shell commands and editor)
- Become familiar with email commands
- Complete homework0
  - Fill out learning styles questionnaire
  - Fill out info file questionnaire and hand in
- Use resources available (instructor, TAs, on-line resources, website, book)
Hand in Info questionnaire

Questions To Be Answered
NOTE: the following questions will be read by a program. Please enter the information on the empty line FOLLOWING each question. These questions will give me some information about you to set up the grading data base and also to help me assign you to your team.

On the following blank line, enter your name (Last, First):

On the following line, enter the lab section you are in (001, 002, 003 or 004):

On the following blank line, enter your wiliki login id:

On the following blank line, enter the last 4 digits of your UH ID:

On the following blank line, tell me what name you prefer going by:

On the following blank line, enter your major (EE, ME, CE, etc.):

On the following blank line, enter your class standing (Fr, So, Jr, Sr, Grad):

On the following line, enter your overall GPA:

Enter the results of your learning style questionnaire exactly as shown on the results page on the following line:
Ways to solve problems

- **Top down approach**
  - Break problem up into smaller problems

- **Bottom up approach**
  - Solve smaller problem and then add features
  - Examples: payroll problem (book), stock market portfolio (started last lecture)

- **Combined approach**
Stock Portfolio Task

Write a program to analyze a stock portfolio consisting of some number of different stocks we own. For each stock we have information on how many shares we own, how much we paid for each share, and how much each share is worth now. Stock prices are expressed as a whole dollar amount and a fraction (e.g. 1/2, 1/4, 1/8, etc.). We would like to compute how our portfolio is worth and how much profit we have made if we liquidated it today.
Bottom Up Approach

- Start with a simplified version of the task, get it working, and then add features until we have solved the entire problem. So, let's assume we have a stock portfolio consisting of just one stock (say in XYZ Corp.). Furthermore, we will only compute how much this little portfolio is worth at first.
- So we begin with our five step design process.
Testing the program

- Removing errors from a program is called debugging.
- Debugging usually takes time!!!
- Types of errors
  - Syntax: Grammar errors, usually easy to fix
  - Link: Statements undefined, usually easy to fix
  - Run time:
    - Computation Errors: (e.g. dividing by zero)
    - Logic Errors: more difficult to remove
Good Programming Practices

- Careful algorithm development
- Modular programming
- Incremental testing
- Program tracing
- Documenting code