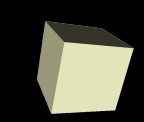
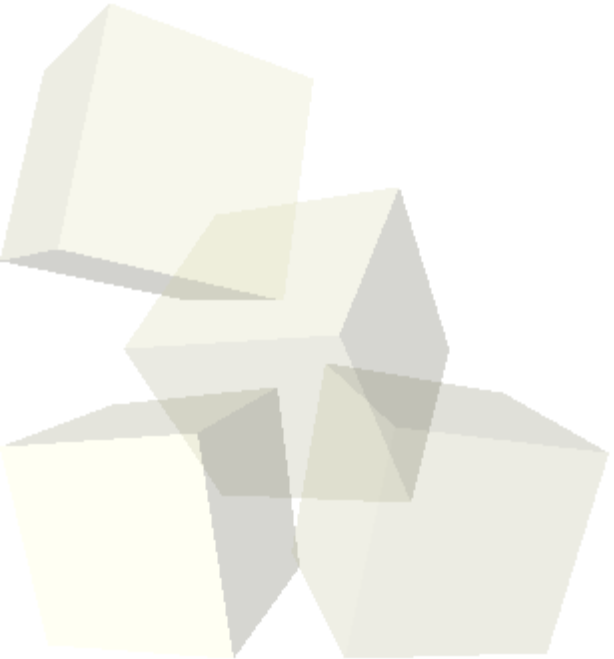


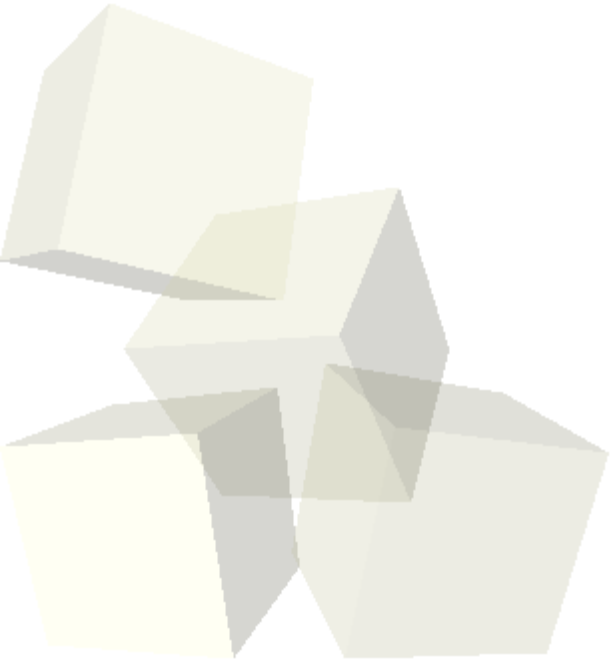
Subroutines

4/2/2008



Opening Discussion

- Do you have any questions about the quiz?
- Do you have any questions about assignment #6?



Calling Subroutines

- The syntax of calling a subroutine is very much like the syntax of calling a function in C. We give the name of the subroutine followed by an argument list in parentheses.
- In Perl the parentheses are optional in some cases. (Definitely when there are no arguments.)
- Older Perl implementations required a & in front of the subroutine name. Only a few usages would require that now.
- Subroutines can be called before they are defined in Perl.

Writing Subroutines

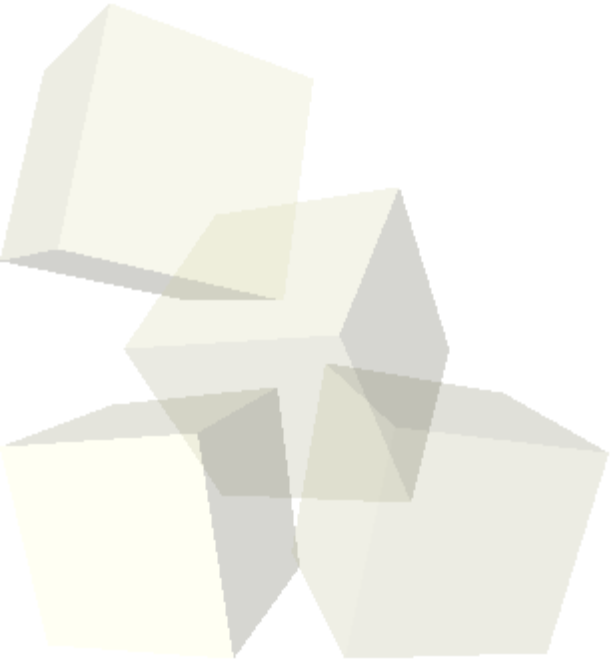
- A subroutine in Perl looks like the following:
  - sub name {
    - statements
  - }
- Note the lack of an argument list. Instead, the variable @_ will contain the arguments passed in.
- The my statement can be used to declare local variables. This is also how we get values out of @_. Note that Perl allows list assignments for this purpose.
- A return statement allows you to return values from a subroutine.

Passing Arguments

- By default, Perl passes arguments by value.
- The argument list is a list of scalars. Passing things other than scalars leads to flattening.
- You can pass a reference by putting \ in front of the variable you are passing at the point of the call.
- When using a reference in the subroutine you have to prepend the type of what you are pulling out in front of the variable name. So you get things like $$i, @$a, %$h, or $$a[5].

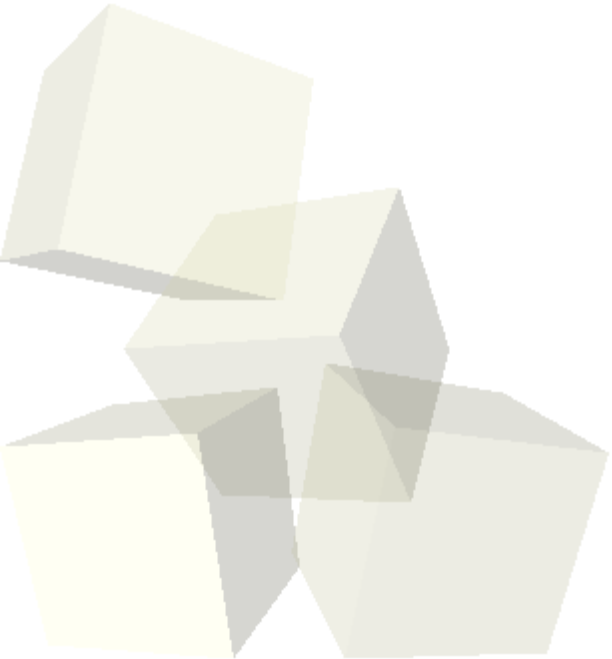
Strict

- To make it so that Perl will force you to declare variable put the following line at the top of your program.
  - use strict;
- It is also a good idea to add the following line at the top of your code.
  - use warnings;



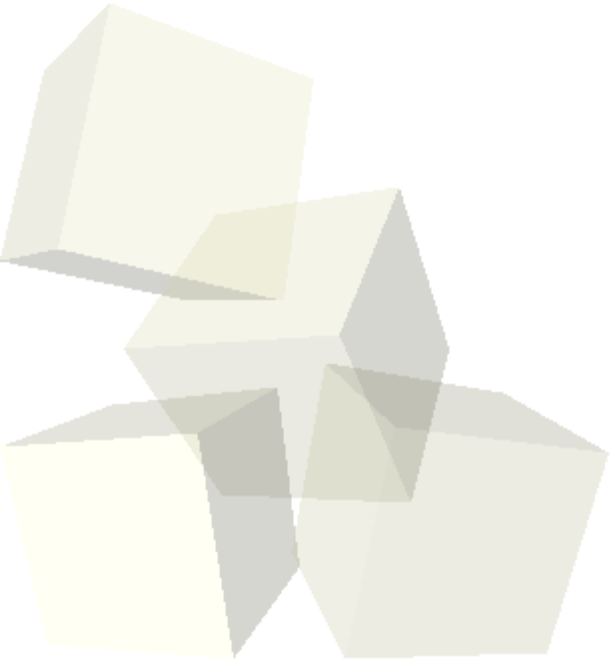
Command-Line Arguments

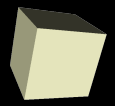
- When you run a Perl program, any arguments specified on the command line are put in a variable called @ARGV
- As a bonus, the $0 variable stores the name of the program.



Modules and Libraries

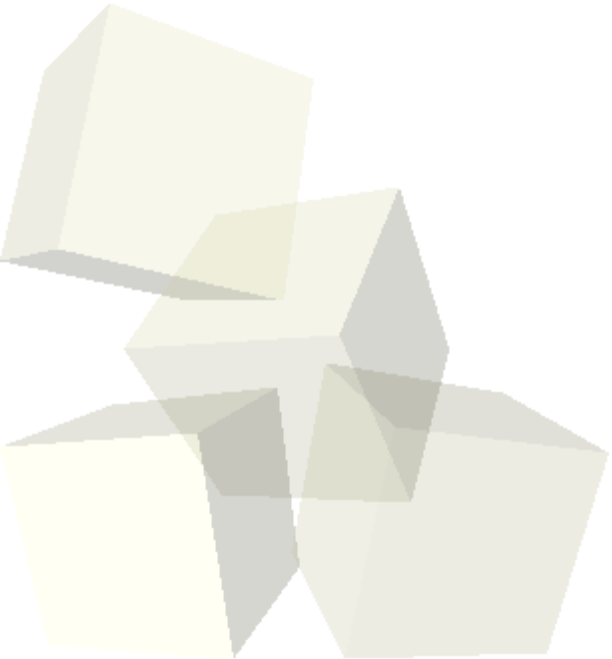
- For subroutines that you will want to reuse often it can be helpful to put them into a separate file.
- It is common to name these files with .pm and the last line of the file needs to be 1;
- Inside your other programs the use keyword allows your code to use your module.





Perl Debugger

- If you run Perl with the -d option it will go into an interactive debugging mode.
- You can force this by adding it to the #! at the top of the program or using perl -d from command line.
- The command q will stop the debugger. h and h h give help.



Closing Remarks

- Assignment #6 is due on Friday.