More and Less
Notes for presentation to User Groups

'more' and 'less' are two similar programs, examples of what are called "terminal pagers". Their purpose is to regulated the flow of data, usually text, to a computer terminal. A pager will, at minimum, control the output so that it can be viewed one screen full (page) at a time.

The older of these two programs, 'more', written by Daniel Halbert, a graduate student at the University of California, Berkeley, in 1978, was first included in 3.0 BSD. It is still distributed under the BSD license.

The newer 'less', dating from 1983 was originally written, and is still maintained by Mark Nudelman, and is distributed under the GNU General Public License (GPL). While the minimalist motto "Less is more" may come to mind, the original joke was that "less" was "backwards more" in that it permitted backward scrolling.

Either of these programs will work as a "stand alone" command that takes filename(s) as input argument(s). For example:
```
$ more readme.txt
```
and
```
$ less readme.txt
```
would each write the first screen full of text from the file "readme.txt", along with a status line at the bottom, to your display. (Some very old versions of 'more' require that files be redirected:
```
$ more<readme.txt)
```

In addition to reading files listed by name on the command line either command will also work as a filter to control the output of other commands in a pipeline. (Typically, 'more' or 'less' would be the last command in the pipeline.)

more command line options
differ widely among versions

more commands (used within pager, also differ widely among versions)
q = quit (use <Ctrl>-C in really old versions)
h = help, simple usage hints
v = open current file in default editor
<Enter> = down one line
<Space> = down one screen

For this discussion the 'more' program is mentioned here because a version of it exists on practically every OS that has a command line. The more feature rich 'less' is usually to be preferred if it is available.

less command line options ([T]=option Toggleable within pager)
[T] -A = Read mouse input, including scroll wheel (some x-terminals only)
[T] -I = ignore case when searching, always
[T] -i = ignore case when searching, except if search string contains a capital
[T] -N = display line numbers
[T] -r = "raw" control characters to be displayed rather than the default
[T] -s = squeeze multiple blank lines to one
[T] -S = "chop" rather than wrap long lines (side scrolling available)
        -X = Don't initialize/deinitialize display

less commands (used within pager)
  q = quit
 Simple navigation within a file
  <Enter> = down one line
  <Space> = down one screen
  <Home>/<End> = jump to beginning/end of file
  n<Arrow> = scroll in arrow direction n lines at a time, one if n not specified
  n u/d = scroll up/down n lines, half screen if n not specified, n persists

Navigation among multiple files
 :n = next file, when multiple files loaded
 :p = previous file, when multiple files loaded

Searching within current file
 /[*string*] = Search forward for *string* in current file
 ?[*string*] = Search backward for *string* in current file
 n = repeat previous string search, in same direction
 N = repeat previous string search in opposite direction
 ([{ ...)]} jump to matching parenthesis/bracket/brace

Special commands
 v = open current file, at current location, in default editor
 F = "follow", scroll to end of input, continue scrolling, read in any new lines (<ctrl>-C terminates)

less environment variables
 $PAGER defines default pager for current shell
 $LESS defines options passed to less on startup
 $LESSOPEN defines preprocessor, enables, for instance, reading text within zipped files
 $LESSCLOSE defines postprocessor,

This is just a brief overview of the most prominent and useful features of the commands 'more' and 'less'. Please see the pertinent man page