<Ch.7> *Navigating* the *Filesystem*
  'Everything is considered a file in Linux.'
  'Files store data and programs.'
  'Directories are a type of file used to store other files.'
<Directory Structure>
  'also called a filesystem.'
  'the top level directory is called `root(/)`.'
  'no drives in Linux; each physical device is accessible under a directory,'
    'as opposed to a drive letter.'
  -*Home Directory*:
    '/home/username is the path to the home directory'
    'is one of the few directories where the user has full control to create'
      'and delete additional files and directories.'
    'represented by the ~ (tilde, virgulilla) character.'
  -*Current Directory*:
    pwd [OPTIONS] 'prints the working directory (current location within the filesystem)'
  -*Changing Directories*:
    cd [OPTIONS] [PATH] 'changes directories'
    'cd without path takes you to the users home directory'
<Paths>
  'a path is a list of directories separated by the / character.'
  'paths are the directory addresses and can be used to indicate the location of'
    'any file within the filesystem.'
  -*Absolute Paths*:
    'allow the user to specify the exact location of a directory.'
    'always begin at the root directory (/).'
  -*Relative Paths*:
    'start with a name of a directory contained within the current directory.'
  -*Shortcuts*:
    ..→'parent directory'
    . →'current directory'

<Listing Files>
  ls [OPTIONS]... [FILE]...
  'when used with no options or arguments, it lists the files in the current directory.'
  'place a backlash (\) character to escape an alias (avoid using.)'
-Hidden Files:
  ls -a [FILE]
  'usually configuration or customization files.'
-Long Listing:
  ls -l [FILE] 'shows files metadata in a details view.'
  >'file type:'
    d →'directory'
    - →'regular file'
    l →'symbolic link'
    s →'socket'
    p →'pipe'
    b →'block file'
    c →'character file'
  >'permissions:'
    r →'read'
    w →'write'
    x →'execute'
  >'hard link count:' →'how many hard links point to this file?'
  >'user owner'
  >'group owner'
  >'file size:'
    -'for directories, it describes the amount of reserved bytes to keep track of'
     'filenames in the directory (ignore it.)'
  >'timestamp'
  >'filename'
-Human-Readable Sizes:
  ls -lh [FILE]
  'adding' -h 'to the' ls 'command presents the file size in a more'
    'human-readable format (like MB or GB.)'
  'the -h option must be used with the -l option'

-List Directories:
```
  ls -d
  'refers to the current directory (. directory) but not the contents within it.'
```
-Recursive Listing:
```
  ls -R [FILE]
  'recursive listing: diplay all of the files in a directory as well as'
    'all the files in all subdirectories under that directory.'
```
-Sort a *Listing*:
```
  ls -S [FILE]        'sorts files by size'
  ls -t [FILE]        'sorts files by timestamp (modification date)'
  ls -t --full-time   'displays complete timestamp (assumes -l option by default)'
  ls -r               'performs a reverse sort'
```