nano

A simple but powerful editor for programming

Goals

- By the end of this lesson you will be able to:
  - Understand the features of the `nano` text editor
  - Utilize `nano` effectively to write programs
  - Modify the `.nanorc` file to automatically enable useful features

What is `nano`?

- `nano` is a what-you-see-is-what-you-get (WYSIWYG) text editor that is included with many distributions of Linux
- `vim` and `emacs` are two other text editors that are objectively more difficult to use for newcomers but ultimately more powerful than `nano`

nano features

- Cut/paste
- Word wrap
- File insertion
- Find/replace
- Position saving
- Jump to line/column
- Display of line/column
- Automatic indentation
- Adjustable scrolling
- Syntax highlighting
- Saving in the event of a disconnect/system crash

`nano` layout

- The screen is split into three areas
  - Top: States the version of `nano`, the file being edited, and whether the file has been changed and needs to be saved
  - Middle: The text being displayed and edited
  - Bottom: Partial list of commands and prompts related to those commands

Running `nano`

- `nano` can generally be launched in 3 ways:
  - `nano` – starts the editor
  - `nano filename` (file does not exist) – starts the editor, will default to saving as `filename`
  - `nano filename` (file exists) – starts the editor, opens the file `filename`

nano commands

- You can hit various key combinations to activate commands
- Some of these commands are shown at the bottom of the nano screen in this format:
  - `^K Cut Text`
  - `^U Uncut Text`
- ^ refers to the ctrl key
- Hitting ctrl-k will cut a line of text while ctrl-u will paste (uncut) that text

`nano` commands

- Some commands are interactive, for example `^O Write Out` is used for saving files
- Upon hitting ctrl-o, `nano` will prompt you to enter a file name, and will default to the previous file name (if any)
- Other commands are also enabled such as `^C Cancel` if you want to cancel saving the file

`nano` options

- You can invoke `nano` with various options to enable or disable various features
- You can read about all options by typing `man nano` at the shell prompt to read the **manual page**
- These options are very useful for enabling features that may be useful to assist in writing computer programs

nano options

- One option is as follows:

```
-S, --smooth
  Enable smooth scrolling.  Text will scroll
  line-by-line, instead of the usual chunk-by-chunk
  behavior.
```

- What this means is that when scrolling past the beginning or end of the current displayed text, the default behavior is to move multiple lines at the same time
- By running `nano -S` or `nano -smooth`
- You can also open files when doing this (e.g. `nano -S filename`)

nano options

- Some other options exist to:
  - Automatically create backups before you save a file
  - Maintain and restore cursor locations for edited files
  - Modify the default tabstop size
  - Automatically indent new lines
  - Enable line numbers
  - Automatically save when exiting
  - Modify word wrap functionality

`.nanorc`

- Instead of invoking `nano` options at the command line, you can modify a file in your home directory called `.nanorc`
- In general `.`*`program`*`rc` refers to **r**un **c**ommands for *`program`*
- There may be a global `.nanorc` file that may set certain options, but you can always override and customize this by editing the one in your home directory

.nanorc

- To edit `.nanorc`, type `nano ~/.nanorc`
- When finished, save and exit
- The next time you run `nano`, your `.nanorc` options will be activated automatically
- If you make an error in the `.nanorc` file, the next time you run `nano` you will get an error but `nano` will launch (although the options won't be processed) – you should re-edit `.nanorc` to make sure it is correct

Exploration

- Use `nano` to create your own `.nanorc` file that will enable various features
- Enable and disable these features to see what happens and what you prefer