1.1.8   Our first synchronous exercise

We will perform our first synchronous activity together in class. We need to build up our toolkit before we can start learning about different models in the practicals. The techniques you learn here will be used throughout the course and we will keep coming back to them.

1.1.8.1   Log-in to the server using SSH

Log into Blackboard on your computer, then go to this course and then the folder called 'Log-in details for server computer'. You may prefer to just click on the link here. This will take you to a folder with your username and password for the course, which you will use all the way through. Please take a note of these details.

Next you should open up a terminal, CMD or Google Chrome and the Secure Shell Web App and log-in to the server computer. You are now logged in to the computer using SSH!

1.1.8.2   Create a text file using a text editor

When working remotely the applications you use to interact with the server should not use too many resources. Here we will create a text file using the `nano` text editor.

Type the following at the prompt within the Secure Shell:
```
nano test.txt
```

You will enter into a text editor where you can type in text. Type the following sentence as in Figure 1.3: Now hold the Ctrl key and press x. Nano will ask if you
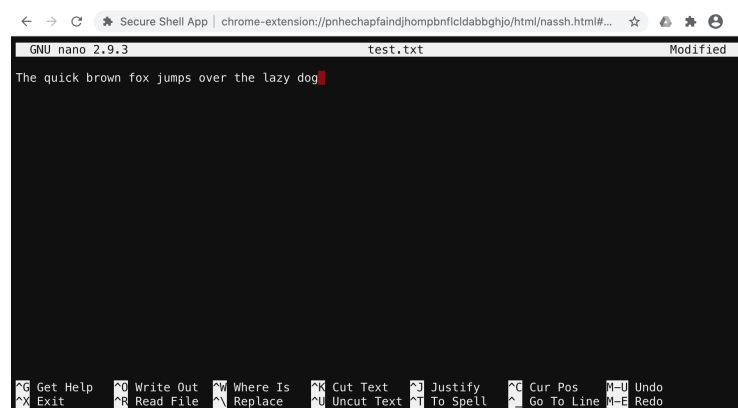

Figure 1.3: The nano text editor

want to save, press 'Y'. Nano will then ask you to name the file: just press the return key here. Congratulations! You have saved a file.

1.1.8.3 Transfer a file to your computer

Now, open up another terminal, CMD window or tab in Google Chrome. If using Google Chrome click on the Secure Shell Web App again, but this time click on the button labelled SFTP. SFTP stands for *secure file transfer protocol*. The interface looks almost the same as the SSH interface.

You will be asked for your password again, so enter your password.

Once connected type: `get` `test`.txt

The above command should download the text file you have just created on the server to you local computer. Open it to check it contains the words you typed.

1.1.8.4 Download some code from GitHub

Lastly, we will download some code from GitHub. We will be doing this a lot so it is important you become familiar with the steps.

From an SSH window (you will need to be logged in) type the following command and then press enter:

```
git clone https://github.com/EnvModelling/approximate-methods-practical
```

The git clone command means: *download a copy/clone of the code at the follow-ing web address*. You should see that the computer downloads the code from the GitHub website. If it does not work, try it again by pushing up on the arrow key once and pressing enter.

Now type:
`ls`
(that is the letter 'l' for lima' and the letter 's', which stands for 'list') followed by enter (you should see a new directory called 'approximate-methods-practical').

Now type:
`cd` `approx`
followed by the `tab` key on your computer. The `tab` key will complete the com-mand automatically and then you can press enter. This is called *tab auto-completion—how useful!*

Finally type:
`ls`
again to see the files in this directory. We can now exit. Type `exit` followed by the 'x' key.