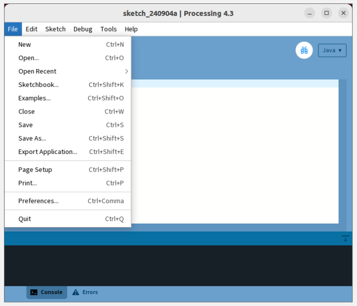
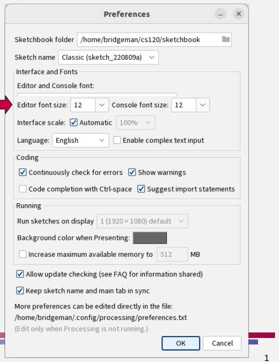
Virtual Desktop Quirks

- teeny tiny font in Processing
  - fix 1: increase the font size in the Processing editor





Sketchbook folder /home/bridgeman/cs120/sketchbook

Sketch name Classic (sketch_220809a)

Interface and Fonts

Editor and Console font:

Editor font size: 12 Console font size: 12

Interface scale: ☑ Automatic 100%

Language: English ☐ Enable complex text input

Coding

☑ Continuously check for errors ☑ Show warnings

☐ Code completion with Ctrl-space ☑ Suggest import statements

Running

Run sketches on display 1 (1920 × 1080) default

Background color when Presenting: ▇

☐ Increase maximum available memory to 512 MB

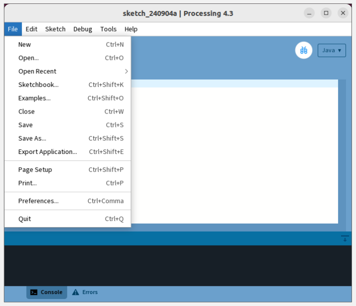
☑ Allow update checking (see FAQ for information shared)

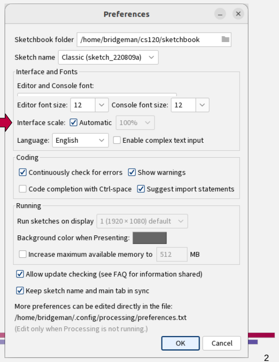
☑ Keep sketch name and main tab in sync

More preferences can be edited directly in the file:
/home/bridgeman/.config/processing/preferences.txt
(Edit only when Processing is not running.)

Virtual Desktop Quirks

- teeny tiny font in Processing
  - fix 2: adjust the interface scale – uncheck "Automatic" and start with 150%





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More preferences can be edited directly in the file:
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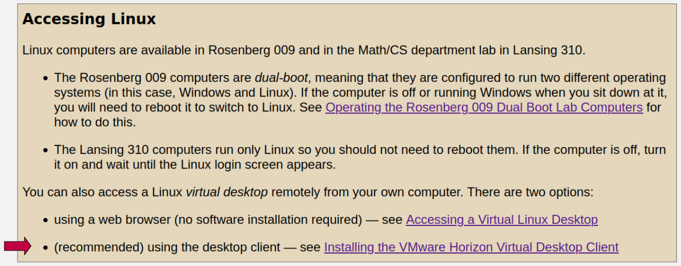
(Edit only when Processing is not running.)

Virtual Desktop Quirks

- copy-and-paste from Firefox not working
  - fix 1: run Firefox in Linux, not on your own computer
  - fix 2: download and use the client instead of the web interface for the virtual desktop (see the lab 1 handout)



Accessing Linux

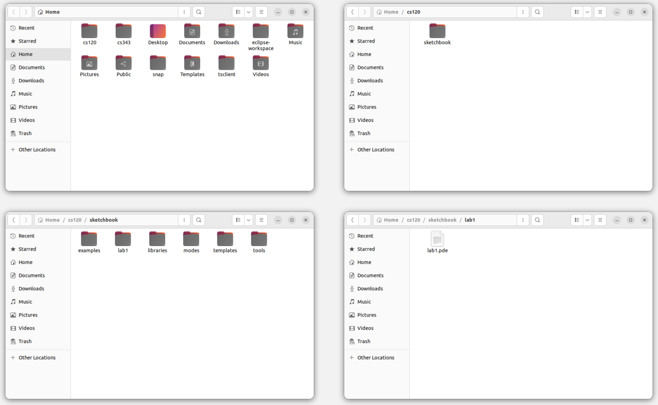
Linux computers are available in Rosenberg 009 and in the Math/CS department lab in Lansing 310.

- The Rosenberg 009 computers are *dual-boot*, meaning that they are configured to run two different operating systems (in this case, Windows and Linux). If the computer is off or running Windows when you sit down at it, you will need to reboot it to switch to Linux. See Operating the Rosenberg 009 Dual Boot Lab Computers for how to do this.
- The Lansing 310 computers run only Linux so you should not need to reboot them. If the computer is off, turn it on and wait until the Linux login screen appears.

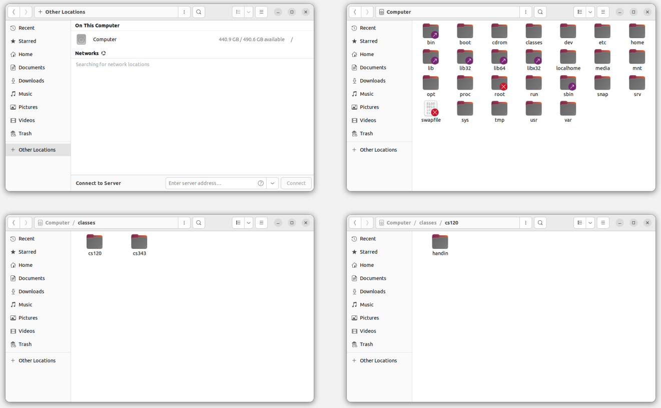
You can also access a Linux *virtual desktop* remotely from your own computer. There are two options:

- using a web browser (no software installation required) — see Accessing a Virtual Linux Desktop
- (recommended) using the desktop client — see Installing the VMware Horizon Virtual Desktop Client

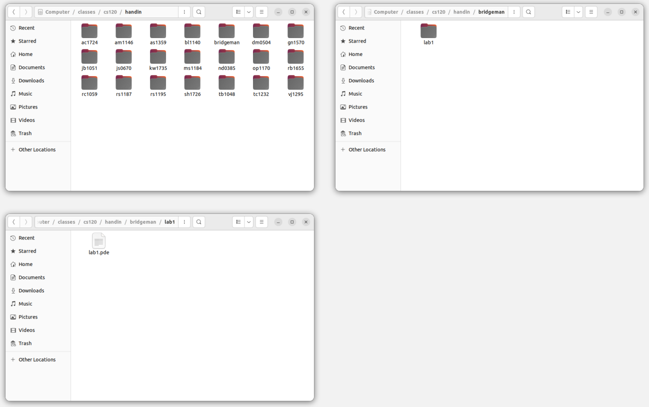
Sketchbook – `~/cs120/sketchbook`



Handin Directory – `/classes/cs120/handin/`*`username`*

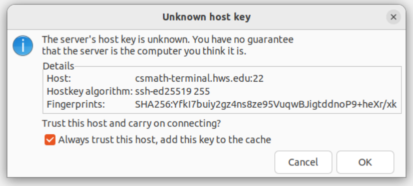


Handin Directory – `/classes/cs120/handin/`*`username`*



FileZilla

- if you run Processing on your own computer, you need to copy sketches between the Linux filesystem and your own computer
  - lab 1 has instructions for downloading FileZilla and how to open a connection (run FileZilla on your own computer)
  -
  - if you see the following (usually just the first time you connect), check the "always trust this host" box and click OK



The server's host key is unknown. You have no guarantee that the server is the computer you think it is.

Details

Host: csmath-terminal.hws.edu:22

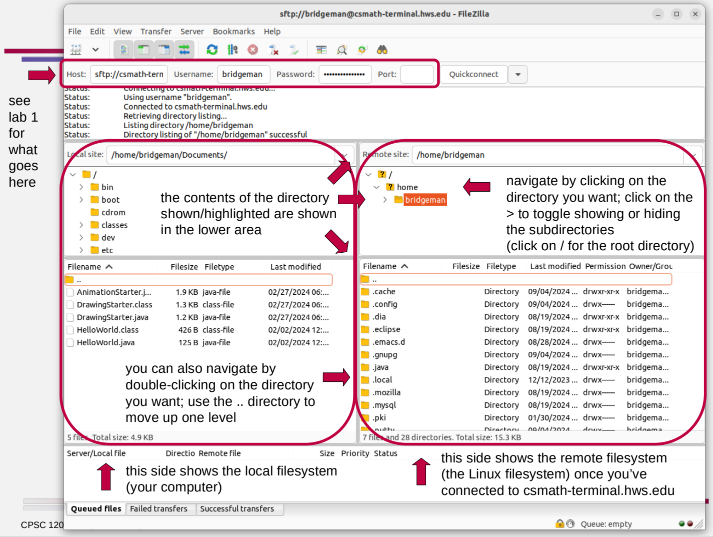
Hostkey algorithm: ssh-ed25519 255

Fingerprints: SHA256:YfkI7buiy2gz4ns8ze95VuqwBJigtddnoP9+heXr/xk

Trust this host and carry on connecting?

☑ Always trust this host, add this key to the cache

see lab 1 for what goes here



Host: sftp://csmath-tern Username: bridgeman Password: •••••••••••••• Port:

```
Status:         Connecting to csmath-terminal.hws.edu...
Status:         Using username "bridgeman".
Status:         Connected to csmath-terminal.hws.edu
Status:         Retrieving directory listing...
Status:         Listing directory /home/bridgeman
Status:         Directory listing of "/home/bridgeman" successful
```

Local site: /home/bridgeman/Documents/

Remote site: /home/bridgeman

the contents of the directory shown/highlighted are shown in the lower area

navigate by clicking on the directory you want; click on the > to toggle showing or hiding the subdirectories
(click on / for the root directory)

Filename	Filesize	Filetype	Last modified
..			
AnimationStarter.j...	1.9 KB	java-file	02/27/2024 06:...
DrawingStarter.class	1.3 KB	class-file	02/27/2024 06:...
DrawingStarter.java	1.2 KB	java-file	02/27/2024 06:...
HelloWorld.class	426 B	class-file	02/02/2024 12:...
HelloWorld.java	125 B	java-file	02/02/2024 12:...

5 files. Total size: 4.9 KB

Filename	Filesize	Filetype	Last modified	Permission	Owner/Grou
..					
.cache		Directory	09/04/2024 ...	drwxr-xr-x	bridgema...
.config		Directory	09/04/2024 ...	drwx------	bridgema...
.dia		Directory	08/19/2024 ...	drwxr-xr-x	bridgema...
.eclipse		Directory	08/19/2024 ...	drwxr-xr-x	bridgema...
.emacs.d		Directory	08/28/2024 ...	drwx------	bridgema...
.gnupg		Directory	09/04/2024 ...	drwx------	bridgema...
.java		Directory	08/19/2024 ...	drwxr-xr-x	bridgema...
.local		Directory	12/12/2023 ...	drwx------	bridgema...
.mozilla		Directory	08/19/2024 ...	drwx------	bridgema...
.mysql		Directory	08/19/2024 ...	drwx------	bridgema...
.pki		Directory	01/30/2024 ...	drwx------	bridgema...
.putty		Directory	09/04/2024 ...	drwx------	bridgema...

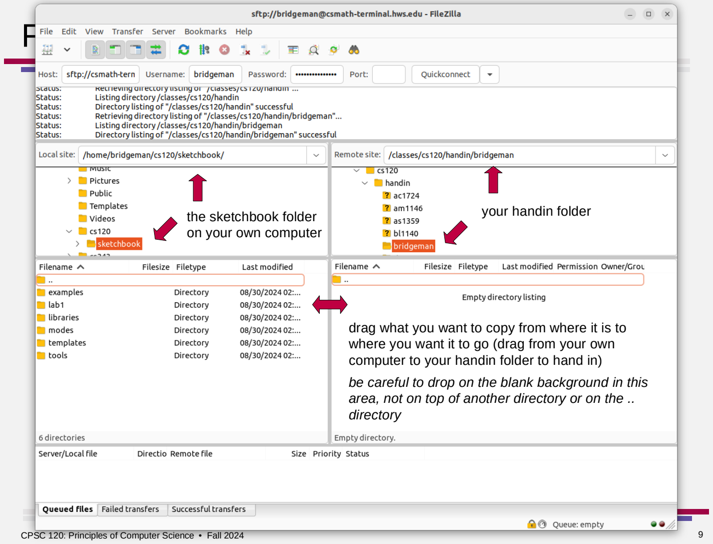
7 files and 28 directories. Total size: 15.3 KB

you can also navigate by double-clicking on the directory you want; use the .. directory to move up one level

this side shows the local filesystem (your computer)

this side shows the remote filesystem (the Linux filesystem) once you've connected to csmath-terminal.hws.edu

F



Host: sftp://csmath-tern Username: bridgeman Password: ••••••••••••••• Port:

```
Status:     Retrieving directory listing of "/classes/cs120/handin"...
Status:     Listing directory /classes/cs120/handin
Status:     Directory listing of "/classes/cs120/handin" successful
Status:     Retrieving directory listing of "/classes/cs120/handin/bridgeman"...
Status:     Listing directory /classes/cs120/handin/bridgeman
Status:     Directory listing of "/classes/cs120/handin/bridgeman" successful
```

Local site: /home/bridgeman/cs120/sketchbook/

Music
Pictures
Public
Templates
Videos
cs120
sketchbook
cs343

the sketchbook folder on your own computer

Remote site: /classes/cs120/handin/bridgeman

cs120
handin
ac1724
am1146
as1359
bl1140
bridgeman

your handin folder

Filename	Filesize	Filetype	Last modified
..			
examples		Directory	08/30/2024 02:...
lab1		Directory	08/30/2024 02:...
libraries		Directory	08/30/2024 02:...
modes		Directory	08/30/2024 02:...
templates		Directory	08/30/2024 02:...
tools		Directory	08/30/2024 02:...

6 directories

Filename	Filesize	Filetype	Last modified	Permission	Owner/Grou
..					

Empty directory listing

drag what you want to copy from where it is to where you want it to go (drag from your own computer to your handin folder to hand in)

be careful to drop on the blank background in this area, not on top of another directory or on the .. directory

Empty directory.

Server/Local file	Directio	Remote file	Size	Priority	Status

Key Points So Far

- a program is a series of *instructions* (called *statements*) – each statement specifies an action

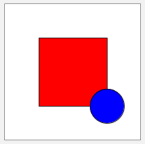
```
rect(100,100,50,200);   // draw a 50x200 rectangle at (100,100)
fill(255,0,0);       // set the current fill color to (255,0,0)
background(255);     // clear the background to white
```

- we've seen statements for –
  - opening a window
  - drawing rectangles, ellipses, lines, points
  - clearing the background to a particular color
  - setting the current fill and stroke colors, used by shape-drawing instructions
  - setting the current "position mode" for rectangles and ellipses (center or upper left corner), used by `rect` and `ellipse`

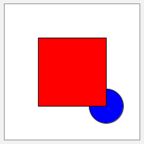
Key Points So Far

- the order of instructions matters
  - "executing a statement" means performing the action
  - statements are executed in order from top to bottom

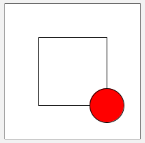
```
size(200,200);
background(255);
rectMode(CENTER);
ellipseMode(CENTER);
fill(255,0,0);
rect(100,100,100,100);
fill(0,0,255);
ellipse(150,150,50,50);
```



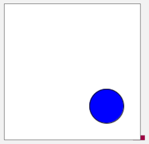
```
size(200,200);
background(255);
rectMode(CENTER);
ellipseMode(CENTER);
fill(0,0,255);
ellipse(150,150,50,50);
fill(255,0,0);
rect(100,100,100,100);
```



```
size(200,200);
background(255);
rectMode(CENTER);
ellipseMode(CENTER);
rect(100,100,100,100);
fill(255,0,0);
ellipse(150,150,50,50);
fill(0,0,255);
```



```
size(200,200);
rectMode(CENTER);
ellipseMode(CENTER);
fill(0,0,255);
ellipse(150,150,50,50);
background(255);
fill(255,0,0);
rect(100,100,100,100);
```

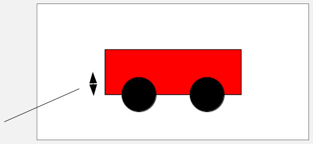


Key Points So Far

- current settings (fill color, stroke color, rect/ellipse mode) stay in effect until changed – they do not need to be set for every shape drawn

```
size(400,200);
background(255);
rectMode(CENTER);
ellipseMode(CENTER);
// the body of the car
fill(255,0,0);
rect(200,100,200,200/3);
// wheels  (left and right)
fill(0);
ellipse(150,100+200/6,50,50);
ellipse(250,100+200/6,50,50);
```

- compute exact positions and sizes when you can instead of guessing



the centers of the wheels line up with the bottom of the rectangle – the y coordinate is half the rectangle's height below the center of the rectangle

```
rect(200,100,200,200/3);
ellipse(150,100+200/6,50,50);
```