

Activities Unknown ▾ Dez 8 10:38

No airfoil loaded

Load

R : 0,00°
S : 100,00mm
TX : 0,00mm
TY : 0,00mm
D : 0,00mm

Here you have your two profiles that can be loaded. You can modify the **R** (rotation), **S** (size, or length), **TX** (x-axis offset), **TY** (y-axis offset), and **D** (diameter, or width)

Feedrate : 500,00mm/s
Lead in/out : 10,00mm

play
stop
save

X+ X-
Y+ Y-
U+ U-
Z+ Z-

When you hit **play**, the gcode will populate this empty white box

These are your jogging buttons. You can jog any of the four motors in + or – direction.

No airfoil loaded

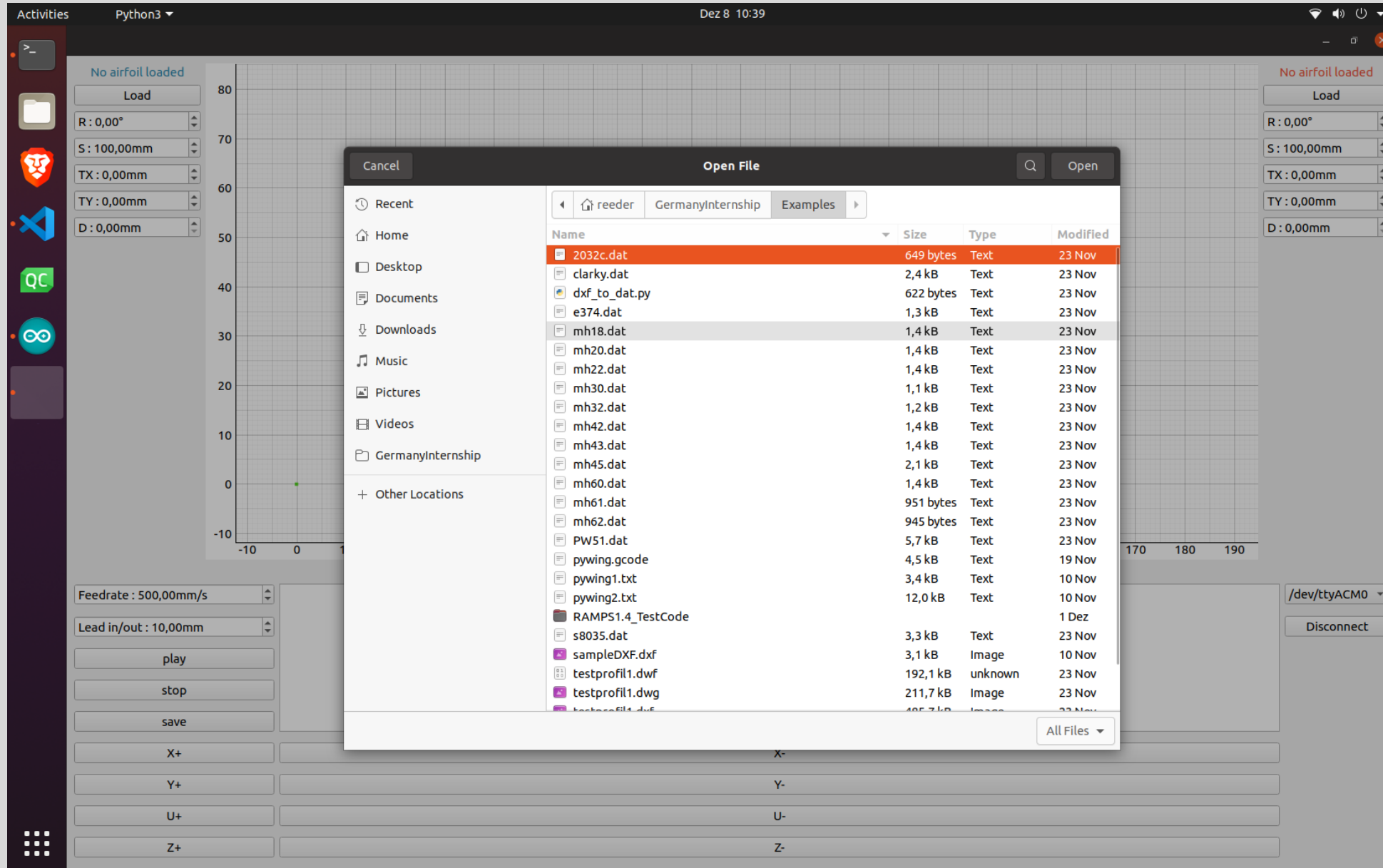
Load

R : 0,00°
S : 100,00mm
TX : 0,00mm
TY : 0,00mm
D : 0,00mm

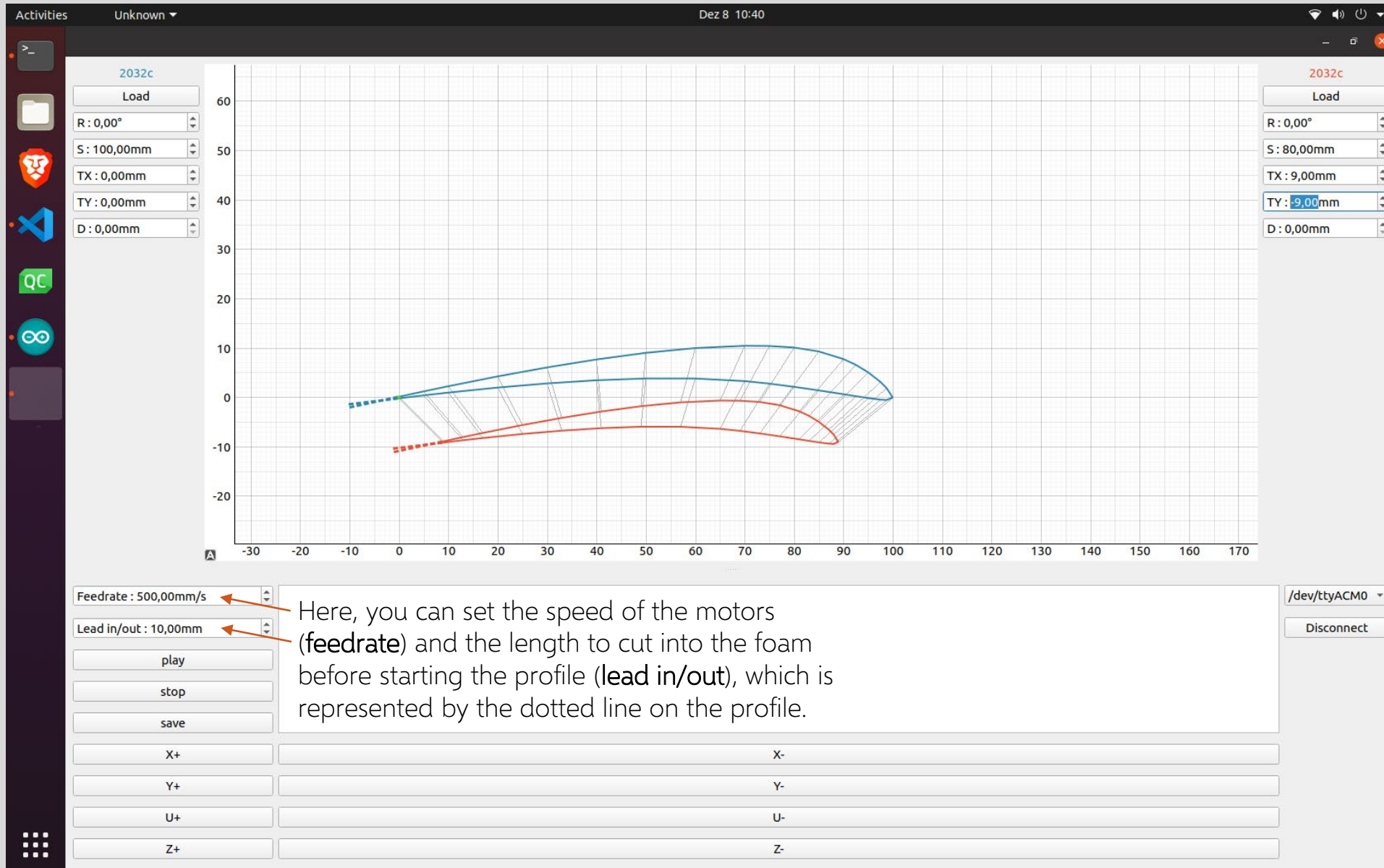
Here is where you connect to the Arduino serial port

/dev/ttyACM0
Connect

This is the user interface that is shown when you start the machine. There are a few modifications to make, such as the jogging buttons are too large. However, functionally, everything is working.

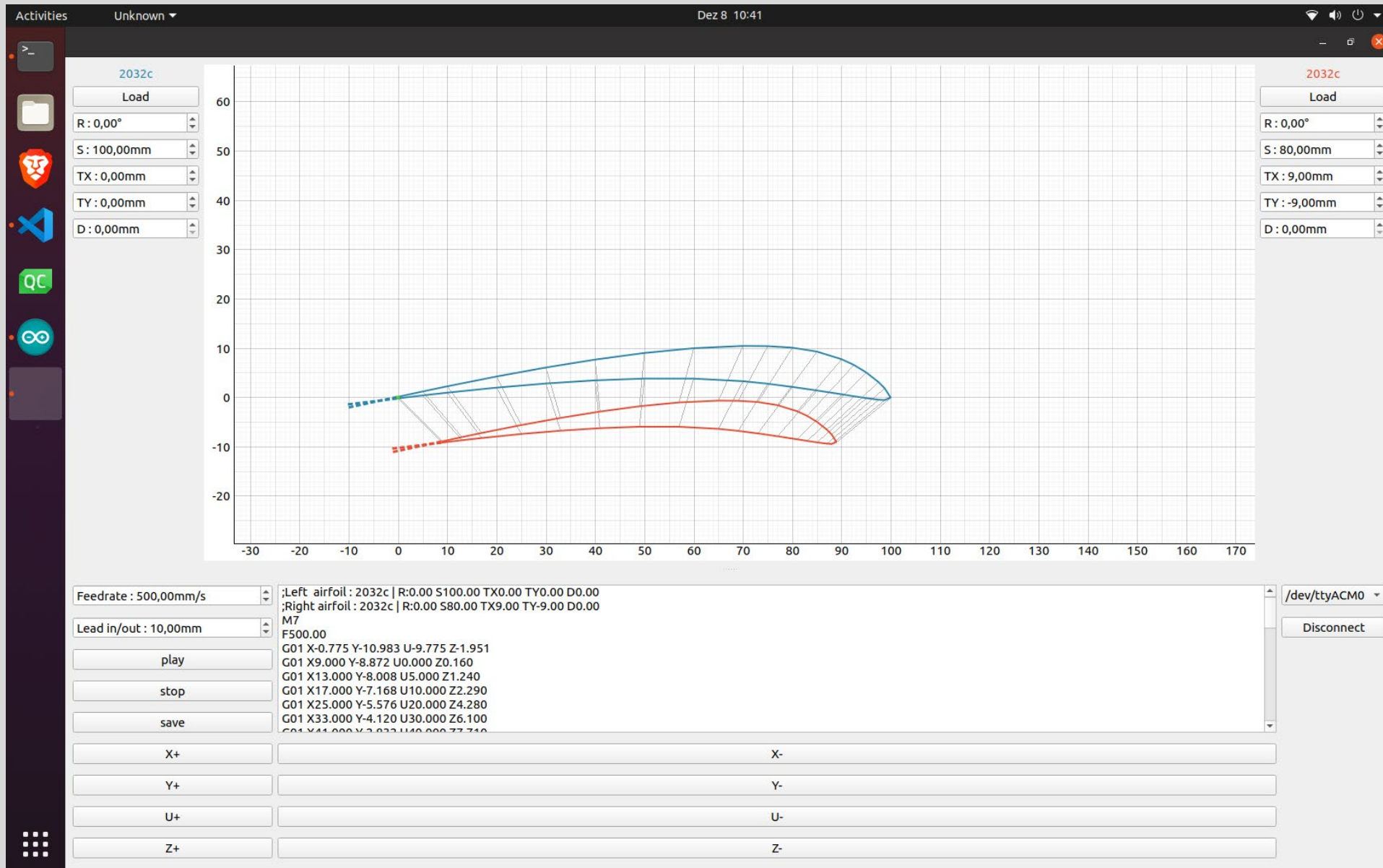


When you hit the **Load** button, a file dialog appears, and you can load *.dat/*.txt (coordinate) files. I am looking into importing other files, such as *.dxf and *.stl, however it will take some work since they have proprietary tags in their coordinates to untangle. I think most cad softwares can export a list of coordinates into a text file.

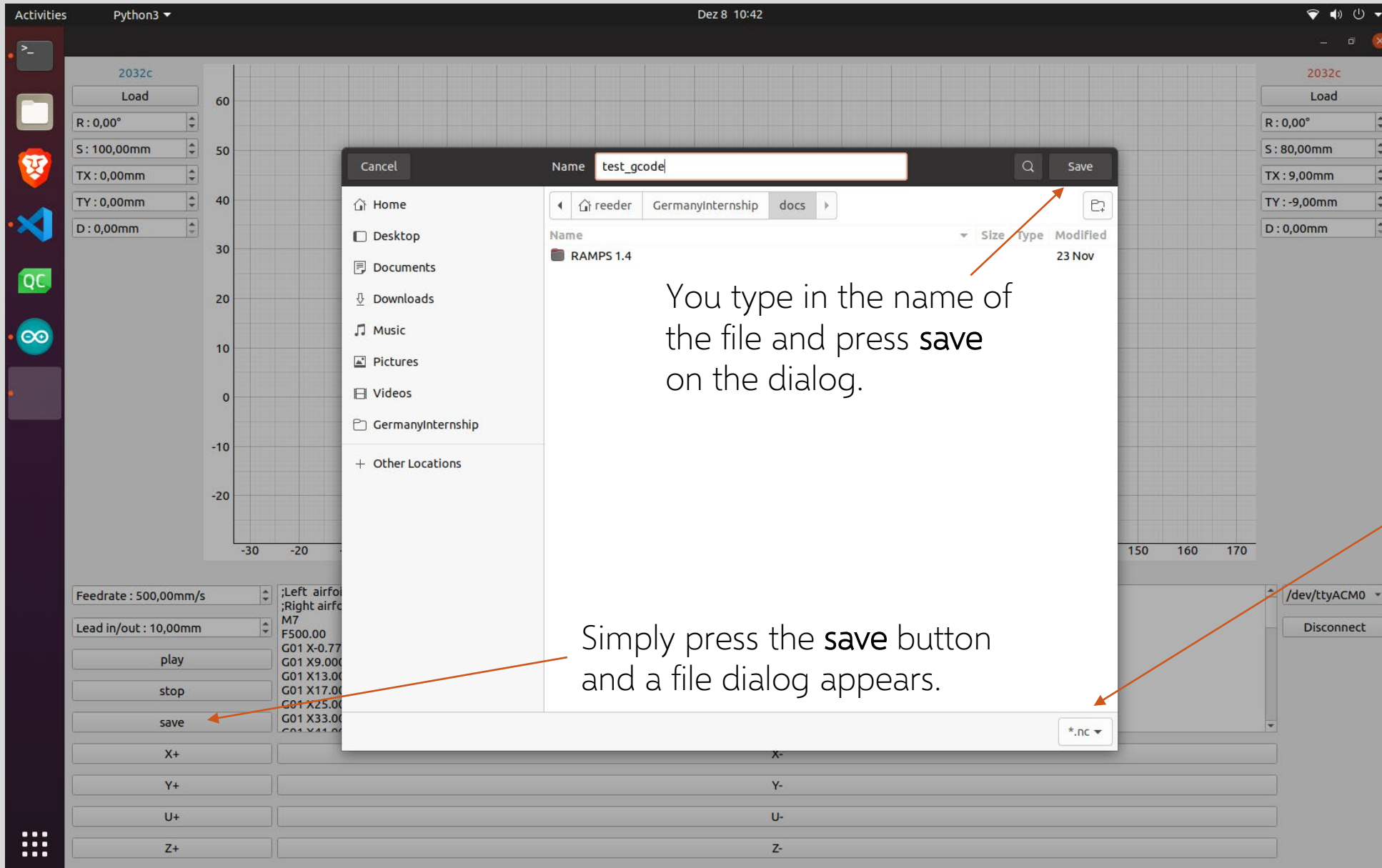


Here, you can set the speed of the motors (**feedrate**) and the length to cut into the foam before starting the profile (**lead in/out**), which is represented by the dotted line on the profile.

Once you open the two profiles, one will be highlighted in **blue** and the other in **red**. As you can see, you can move/modify the profile with the controls to make tapered wings.



When you complete your wing profile modifications, you then jog the motors to the zero position. You then set your zero (I am making a button for that today), and press **play**. The gcode appears in the white box and starts immediately.

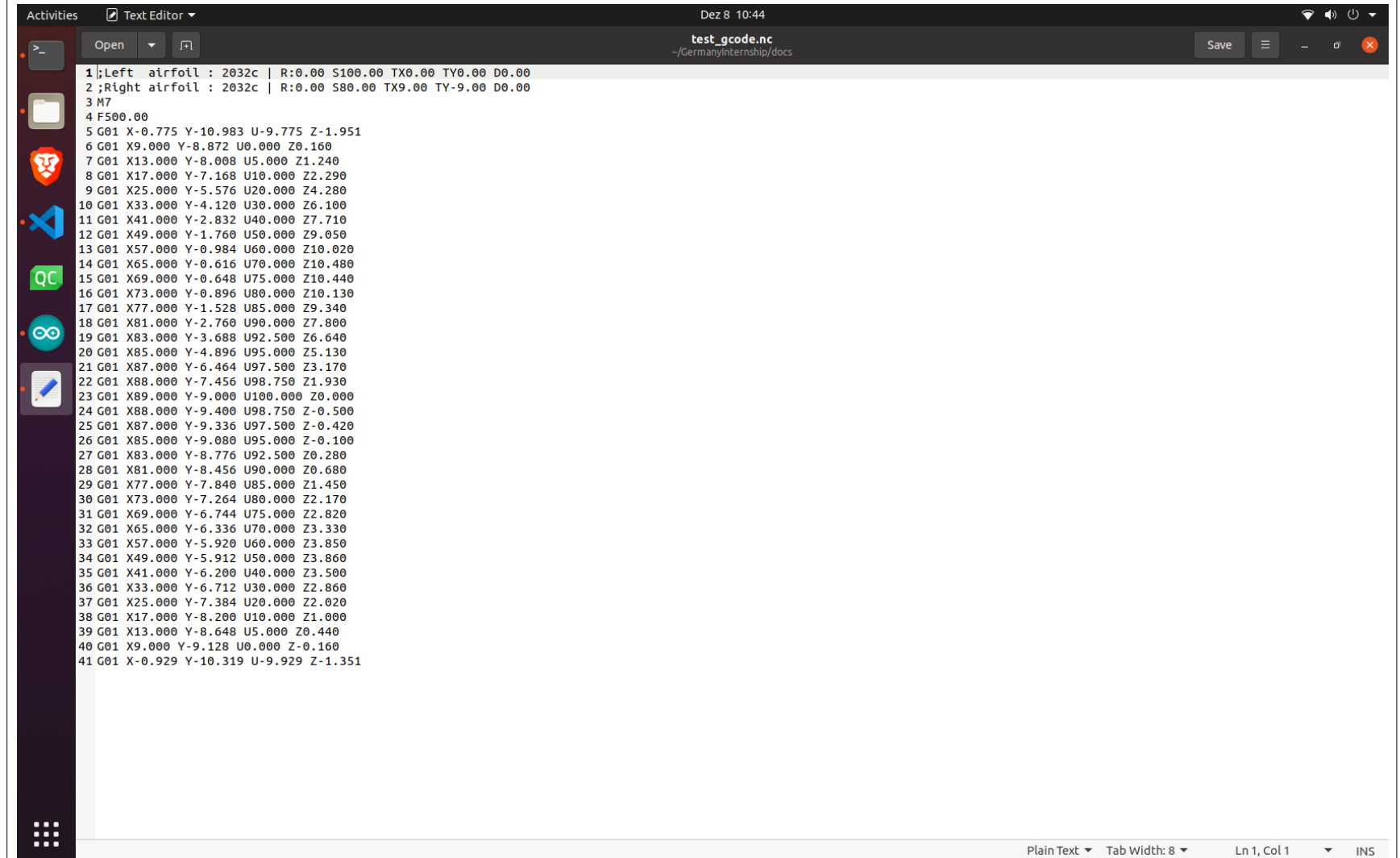


You type in the name of the file and press **save** on the dialog.

Simply press the **save** button and a file dialog appears.

You can save the generated **gcode** for future use, into a ***.nc** file.

- You can then navigate to the directory where you saved the gcode to view and edit the gcode as needed. I will make an **import** button on the interface to load gcode files, not just wing profiles, into the software.



The screenshot shows a Linux desktop environment. On the left is a vertical dock with icons for a terminal, file manager, Firefox, VS Code, a green application, a circular icon, and a notepad. The main window is a text editor titled "test_gcode.nc" with a path of "~/GermanyInternship/docs". The editor contains 41 lines of G-code. The first two lines are comments: "1;Left airfoil : 2032c | R:0.00 S100.00 TX0.00 TY0.00 D0.00" and "2;Right airfoil : 2032c | R:0.00 S80.00 TX9.00 TY-9.00 D0.00". Line 3 is "3 M7". Line 4 is "4 F500.00". Lines 5 through 41 are G01 moves with various X, Y, U, and Z coordinates. The status bar at the bottom right shows "Plain Text", "Tab Width: 8", "Ln 1, Col 1", and "INS".

```
1;Left airfoil : 2032c | R:0.00 S100.00 TX0.00 TY0.00 D0.00
2;Right airfoil : 2032c | R:0.00 S80.00 TX9.00 TY-9.00 D0.00
3 M7
4 F500.00
5 G01 X-0.775 Y-10.983 U-9.775 Z-1.951
6 G01 X9.000 Y-8.872 U0.000 Z0.160
7 G01 X13.000 Y-8.008 U5.000 Z1.240
8 G01 X17.000 Y-7.168 U10.000 Z2.290
9 G01 X25.000 Y-5.576 U20.000 Z4.280
10 G01 X33.000 Y-4.120 U30.000 Z6.100
11 G01 X41.000 Y-2.832 U40.000 Z7.710
12 G01 X49.000 Y-1.760 U50.000 Z9.050
13 G01 X57.000 Y-0.984 U60.000 Z10.020
14 G01 X65.000 Y-0.616 U70.000 Z10.480
15 G01 X69.000 Y-0.648 U75.000 Z10.440
16 G01 X73.000 Y-0.896 U80.000 Z10.130
17 G01 X77.000 Y-1.528 U85.000 Z9.340
18 G01 X81.000 Y-2.760 U90.000 Z7.800
19 G01 X83.000 Y-3.688 U92.500 Z6.640
20 G01 X85.000 Y-4.896 U95.000 Z5.130
21 G01 X87.000 Y-6.464 U97.500 Z3.170
22 G01 X88.000 Y-7.456 U98.750 Z1.930
23 G01 X89.000 Y-9.000 U100.000 Z0.000
24 G01 X88.000 Y-9.400 U98.750 Z-0.500
25 G01 X87.000 Y-9.336 U97.500 Z-0.420
26 G01 X85.000 Y-9.080 U95.000 Z-0.100
27 G01 X83.000 Y-8.776 U92.500 Z0.280
28 G01 X81.000 Y-8.456 U90.000 Z0.680
29 G01 X77.000 Y-7.840 U85.000 Z1.450
30 G01 X73.000 Y-7.264 U80.000 Z2.170
31 G01 X69.000 Y-6.744 U75.000 Z2.820
32 G01 X65.000 Y-6.336 U70.000 Z3.330
33 G01 X57.000 Y-5.920 U60.000 Z3.850
34 G01 X49.000 Y-5.912 U50.000 Z3.860
35 G01 X41.000 Y-6.200 U40.000 Z3.500
36 G01 X33.000 Y-6.712 U30.000 Z2.860
37 G01 X25.000 Y-7.384 U20.000 Z2.020
38 G01 X17.000 Y-8.200 U10.000 Z1.000
39 G01 X13.000 Y-8.648 U5.000 Z0.440
40 G01 X9.000 Y-9.128 U0.000 Z-0.160
41 G01 X-0.929 Y-10.319 U-9.929 Z-1.351
```