**3. Run GUI Programs on Startup With Autostart**

Autostart is the best way to run GUI-based Raspberry Pi programs on startup. It works by ensuring that both the X Window system and the LXDE desktop environment are available before the system runs any of the scheduled programs.

If you have a script that runs in the windowed mode, or you want to run any of the GUI-based programs/applications at startup on your Raspberry Pi, you should schedule them to run using autostart. Here are the steps to do this.

1. First, open the terminal and enter the following command to create a .desktop file in the autostart directory: **sudo nano /etc/xdg/autostart/display.desktop**. We've used display.desktop as file name, but you can name your desktop file anything you want.
2. In the .desktop file, add the following lines of code:

[Desktop Entry]  
Name=PiCounter  
Exec=/usr/bin/python3 /home/pi/PiCounter/display.py

1. In this file, replace the value for the **Name** field with your project/script name. Similarly, we've added our display.py program to run every time the Raspberry Pi boots up.
2. However, you can replace it with any program that you want to run. In fact, you can even schedule to run a third-party program, like the Chrome browser; in which case, the .desktop file should include the following code:

[Desktop Entry]  
Name=Chrome  
Exec=chromium-browser

1. After that, hit **CTRL + O** to save the file, and then enter **sudo reboot** to restart the Pi.

As soon as your Pi boots up, your GUI program should automatically start as well. In case you'd like to stop your program from running at startup anymore, simply go to the autostart folder and remove the .desktop file you just created.