This document explains how data is received from the Sense Hat emulator and stored in a local txt file in the program IMU\_Data.py

* hat=SenseHat() creates an object to get data from the emulator.
* The sleep waits until the Emulator window opens up. If this is not present, the while loop starts before the emulator opens and hence, it can’t get the data.
* Fname is the name of the file in which the data is stored. Path mentions the file path.
* The while loop continuously gets data from the emulator. Each set of data from the magnetometer, accelerometer and gyroscope is appended to mag\_data, acc\_data and gyro\_data respectively.
* All of these are appended to the “data” list. So the magnetometer, accelerometer and gyroscope data is present as a single set in data.
* This single set is then written to the file along with a newline, so that the next set of data is appended in the file’s next line.
* Data collection interval is specified with sleep

Commands for autorun on startup:

Place the following commands at the end of "sudo nano /home/pi/.bashrc" file.With the .bashrc method, your python program will run whenever we open the terminal.

echo Running at boot

sudo python /home/pi/Desktop/IMU\_data.py

To open the terminal on bootup so that the above command can run, open "sudo nano /etc/xdg/lxsession/LXDE-pi/autostart" and add these lines before @xscreensaver:

@lxterminal sudo sensor\_emu\_gui

@lxterminal

This will open the terminal on startup which in turn runs the python script.

But one bug is that after the program is stopped, the .txt file can't be deleted. It keeps reappearing.