Question 2: Implementing a Human Posture Detection app (25 points)

The purpose of this question is to use the **accelerometer** sensor of your smartphone to find out some simple human posture.

(a) Use the **Physics Toolbox** in your smartphone. Now take the smartphone in your trouser pocket at any particular orientation. Record the accelerometer samples while you are sitting, standing and lying down straight, and plot them. Can you see any patterns while performing these actions?

(b) Can you use this pattern for "finding out among these three human postures" in real time? Please use the **PhonePI+** app for streaming your data to your computer. Please the setps in GitHub - priyankark/PhonePi_SampleServer: Companion servers in Node and Python for the PhonePi Sensor Streamer apps., and the attached code. Also please use Ubuntu/Linux environment to PhonePi+. Plaese, report your data (in graphs) and outcome in the report.