**Aim**

To collect the PPG data from the earlobe sensor available

**Tool used:** Arduino(<https://www.arduino.cc/> ), Processing (<https://processing.org/> )

**PPG**

PPG ( Photoplethysmogram) : An optical sensor placed near the human artery a pulse waveform can be detected. It is obtained by illuminating the area and measuring the change in light absorption. Each cardiac cycle appears as a peak and thus is captured by the optical sensor. The features which are extracted from these signals are useful in improving the risk related to cardiovascular diseases. In the paper a signal acquisition system is suggested which can non-invasively measure, transmit and analyse the above biological signals. The device is majorly focused on the estimation of BP (Blood Pressure) and HR (Heart Rate).

**Software Used**

*Arduino*

It is an open-source electronic platform based on Atmega IC with on board sensors, I/O and easy to use software ( Arduino IDE). The development IDE works on simple C/C++ logics . The IDE supports different type of controllers for uploading the code. It has its own serial monitor to view the serial input data.

*Processing*

It is a flexible software sketchbook which ease the work of coding by visual art and design. It is used in the project to accept the serial input from arduino IDE and save it directly into the file.

**Setup**

Arduino\_Earlobe.ino : This file contains reading of analog value from the input PPG sensor from ADC channel input. The data is sent to serial port which can be displayed on serial monitor (Ctrl+Shift+M).

Processing\_Earlobe.pde : The code reads the data from the serial port of Arduino and then is serially stored in the txt file for further use.



**Result**

The data from the PPG sensor is stored in the ‘data.txt’ file to be used in Machine Learning Algorithm for further processing.