# **Virtual Task 1:**

To plot 4 channel EEG data and cut out a template with a spike and use it to auto correlate and cross correlate with other channels.

# **Code:**

eeg= load('eeg.dat');

channel1 = eeg(0,0);

channel2 = eeg(0,1);

channel3 = eeg(0,2);

channel4 = eeg(0,3);

figure(1)

subplot(4,1,1)

plot(channel1)

title('Channel 1');

subplot(4,1,2)

plot(channel2)

title('Channel 2');

subplot(4,1,3)

plot(channel3)

title('Channel 3');

subplot(4,1,4)

plot(channel4)

title('Channel 4');

template=channel4(7000:9000); %observed spike in the graph

a=xcorr(channel1,template);

b=xcorr(channel2,template);

c=xcorr(channel3,template);

d=xcorr(channel4,template);

figure(2)

subplot(2,2,1)

plot(a)

title('correlation of channel 1 against template')

subplot(2,2,2)

plot(b)

title('correlation of channel 2 against template')

subplot(2,2,3)

plot(c)

title('correlation of channel 3 against template')

subplot(2,2,4)

plot(d)

title('correlation of channel 4 against template')

**Output:**





