ECG1:

1. Time interval : 9.6-10.4 seconds
   There is a slight delay in PQRST complex in this interval, thus it is an irregularity, and it may be bradycardia.
   This occurs only once in this sample.
   The heartbeat slows down here.

ECG2:

1. Time interval: 2-2.3 seconds
   The S interval of this part of the graph has a much larger value of amplitude than it should.
   Around this interval, it occurs only once, indicating a just a PVC.

2. Time interval: 7-7.3 seconds
   The graph of the ECG once again has a sharp dip.
   This too is a PVC only as there is no other dip around this interval.

3. Time interval: 10-12.3 seconds
   There are 3 consecutive PVCs, as shows by the sharp dips in the graph.
   Because the PVCs occur thrice in a row, this would be classified as VT.

4. Time interval: 15-16.3 seconds
   There are 2 consecutive PVCs in this interval.
   However, this is not a case of VT as there need to be 3 PVCs for it to be classified as a case of VT.

HRV Graph

In the first 1.6 seconds, the HRV drops rapidly from 81 to 75. After this drop, the HRV gradually decreases further and then steadies after 9.3 seconds. There is another dip in the graph where there is a slight irregular heartbeat pattern in the ECG graph, however this dip is not as large as the first one. After 10.4 seconds the graph then starts to show a gradual increase.

Task 4

In the graph for ECG 2, at about 10 seconds, there is a T wave incorrectly plotted. This anomaly may either be due to an abnormality in the signal or a mishap in the script. However, the rest of the points are all correctly plotted.

Task 5

In our MATLAB script, the loop that detects arrhythmias does not work correctly. But the plan was to use the R-R interval detected in this task and to use it as a condition to detect PVC, and display the time index at which it occurs.