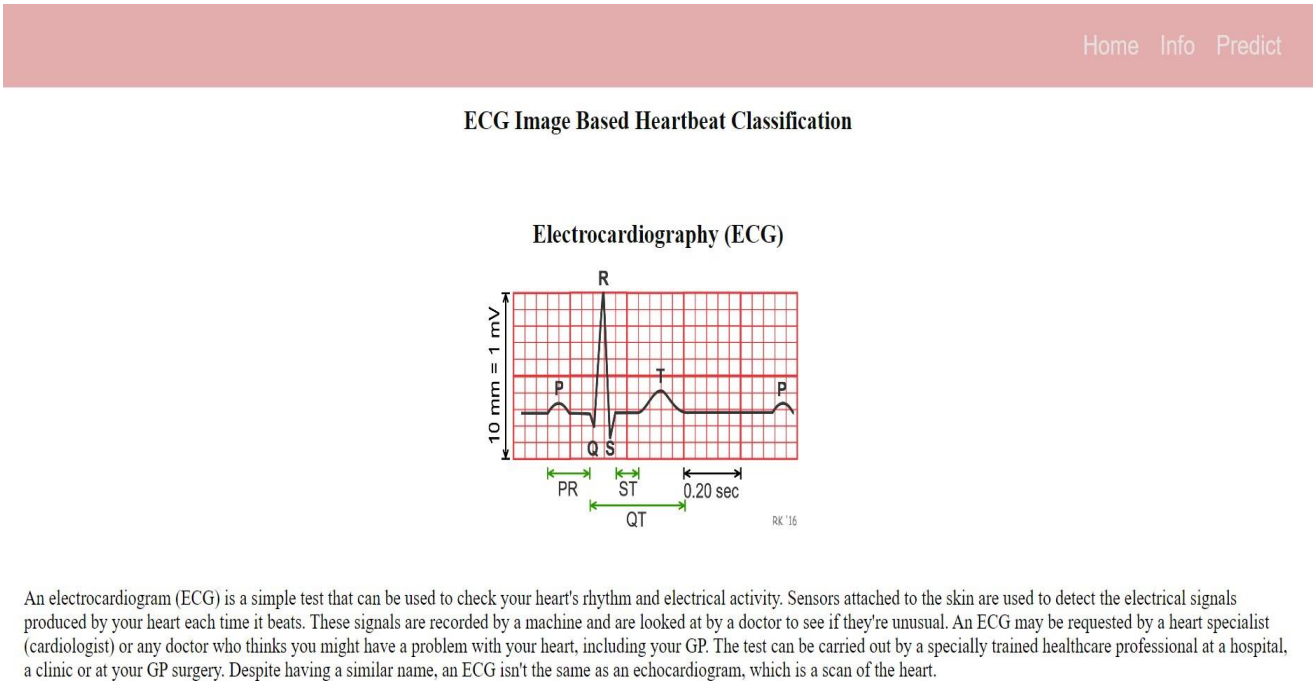
SPRINT 3: Classification of Arrhythmia by Using Deep Learning With2-D ECG Spectral Image Representation

Description of USN and Screenshots:

USN-5:

As a user, I can enter the webpage and view the homepage about the information about Electrocardiography (ECG) giving a clear perspective of the signals. I must also be able to comprehend all medical jargon related to Arrhythmia such as ECG, Coronary Heart Disease, Cardiomyopathy and its types.

Screenshot:



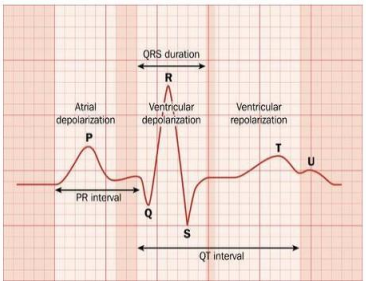
When is an ECG is used?

An ECG is often used alongside other tests to help diagnose and monitor conditions affecting the heart. It can be used to investigate symptoms of a possible heart problem, such as chest pain, palpitations (suddenly noticeable heartbeats), dizziness and shortness of breath. An ECG can help detect:

- Arrhythmias - Where the heart beats too slowly, too quickly, or irregularly.
- Coronary Heart Disease - Where the heart's blood supply is blocked or interrupted by a build-up of fatty substances.
- Heart Attacks - Where the supply of blood to the heart is suddenly blocked.
- Cardiomyopathy - Where the heart walls become thickened or enlarged.

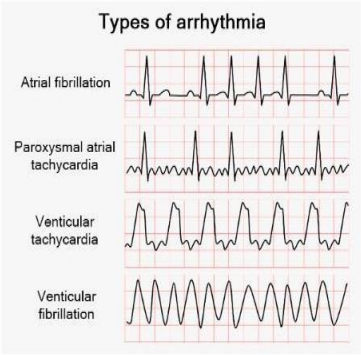
A series of ECGs can also be taken over time to monitor a person already diagnosed with a heart condition or taking medication known to potentially affect the heart.

Normal ECG



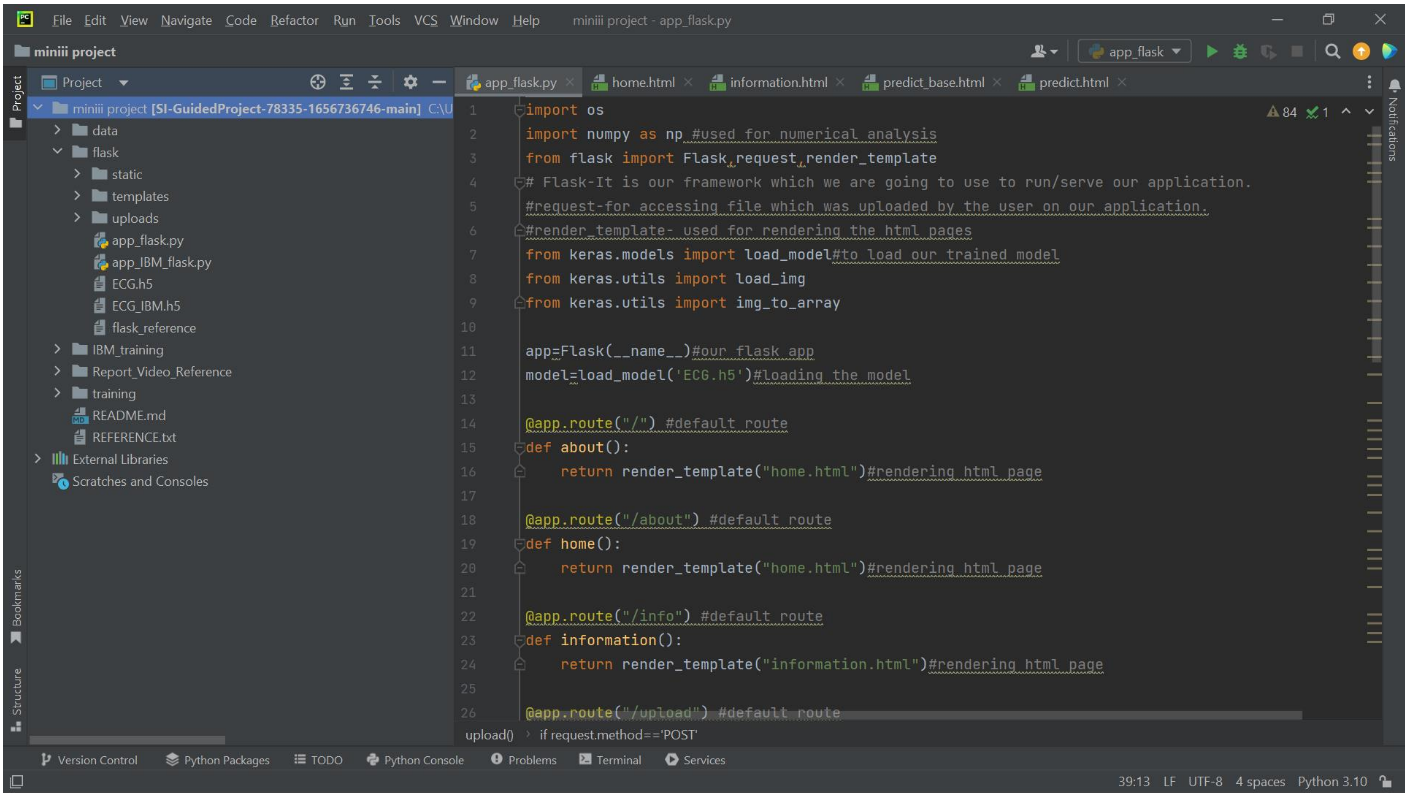
A normal ECG is illustrated above. Note that the heart is beating in a regular sinus rhythm between 60 - 100 beats per minute (specifically 82 bpm). All the important intervals on this recording are within normal ranges.

Abnormal ECG

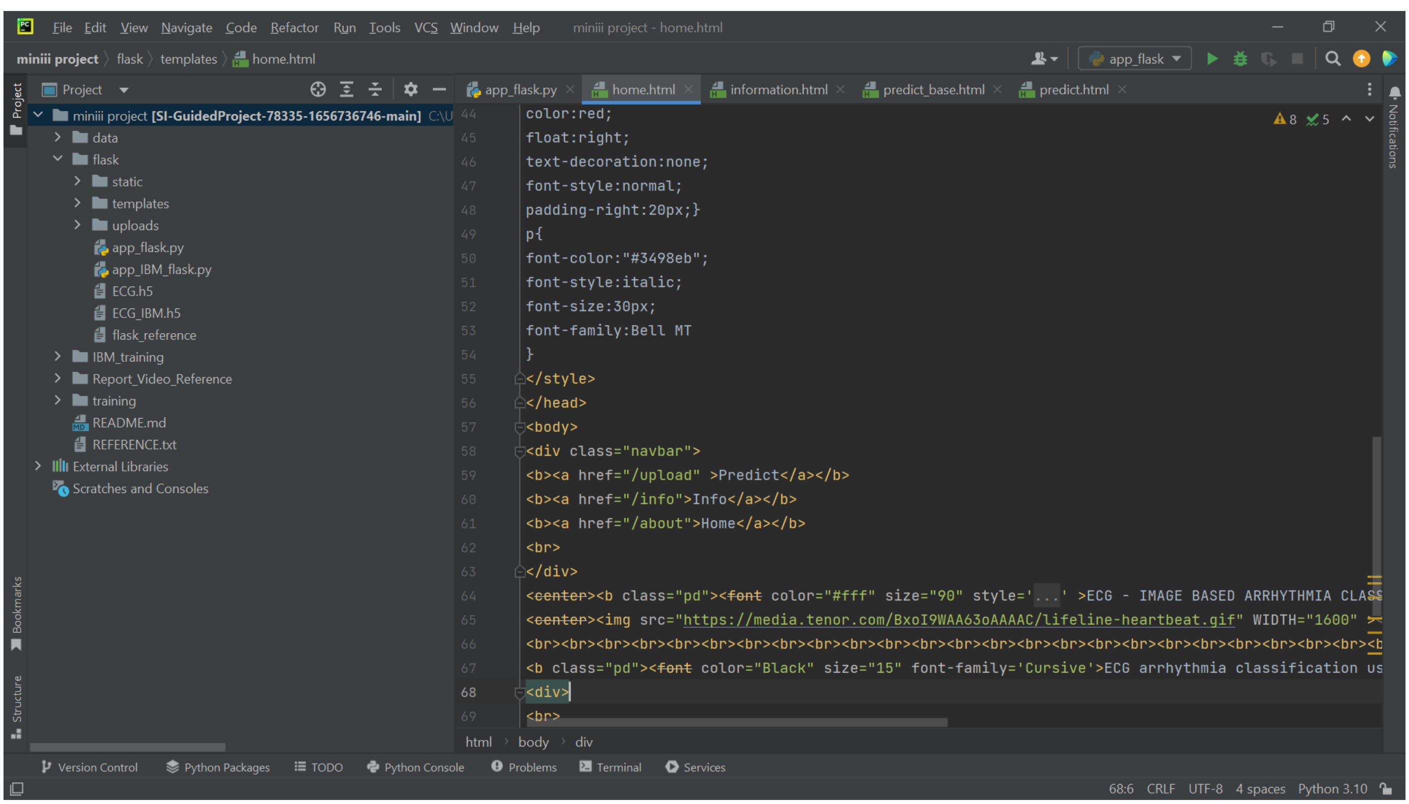


Electrocardiographic abnormalities include first-degree heart block, right and left bundle branch block, premature atrial and ventricular contractions.

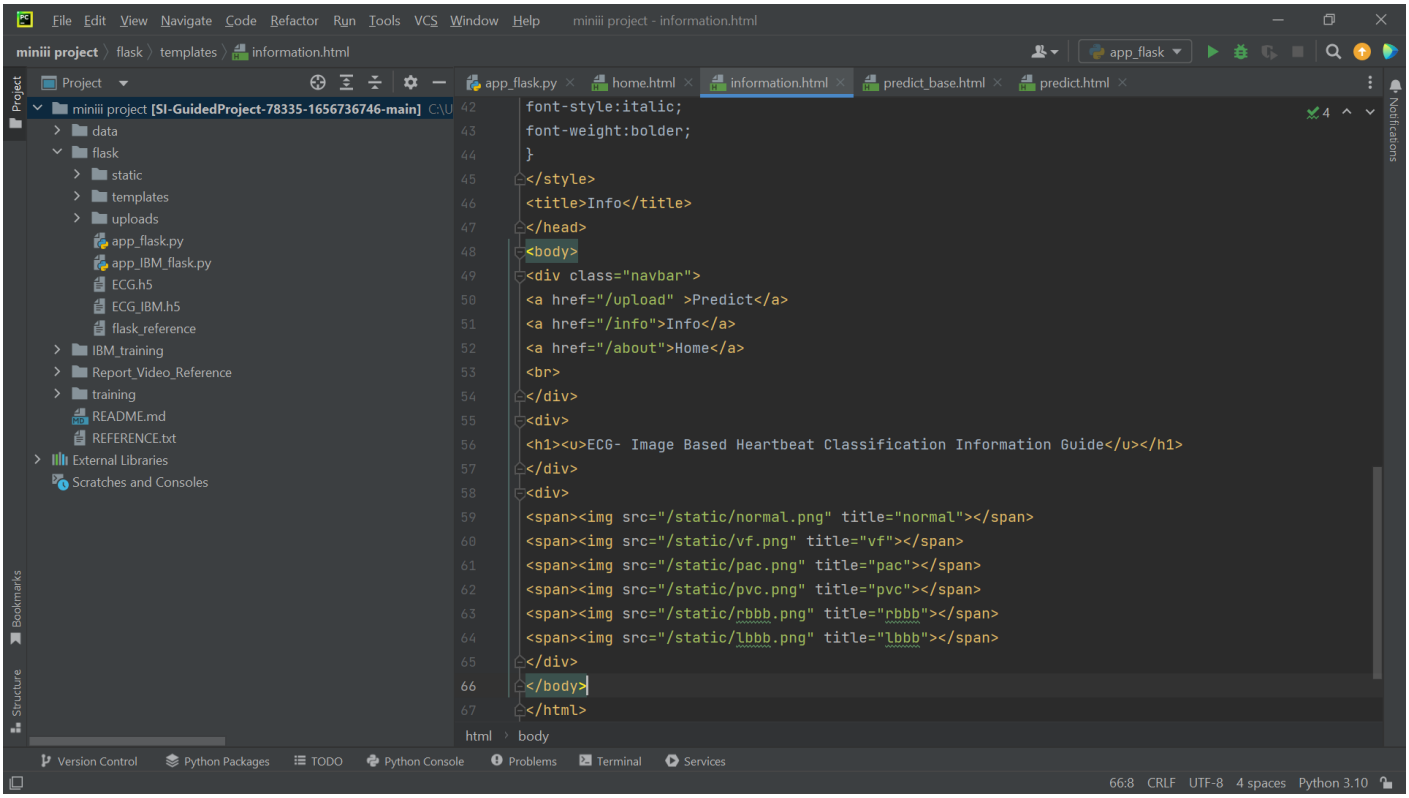
The HTML file used to build the app_flask.py page includes:



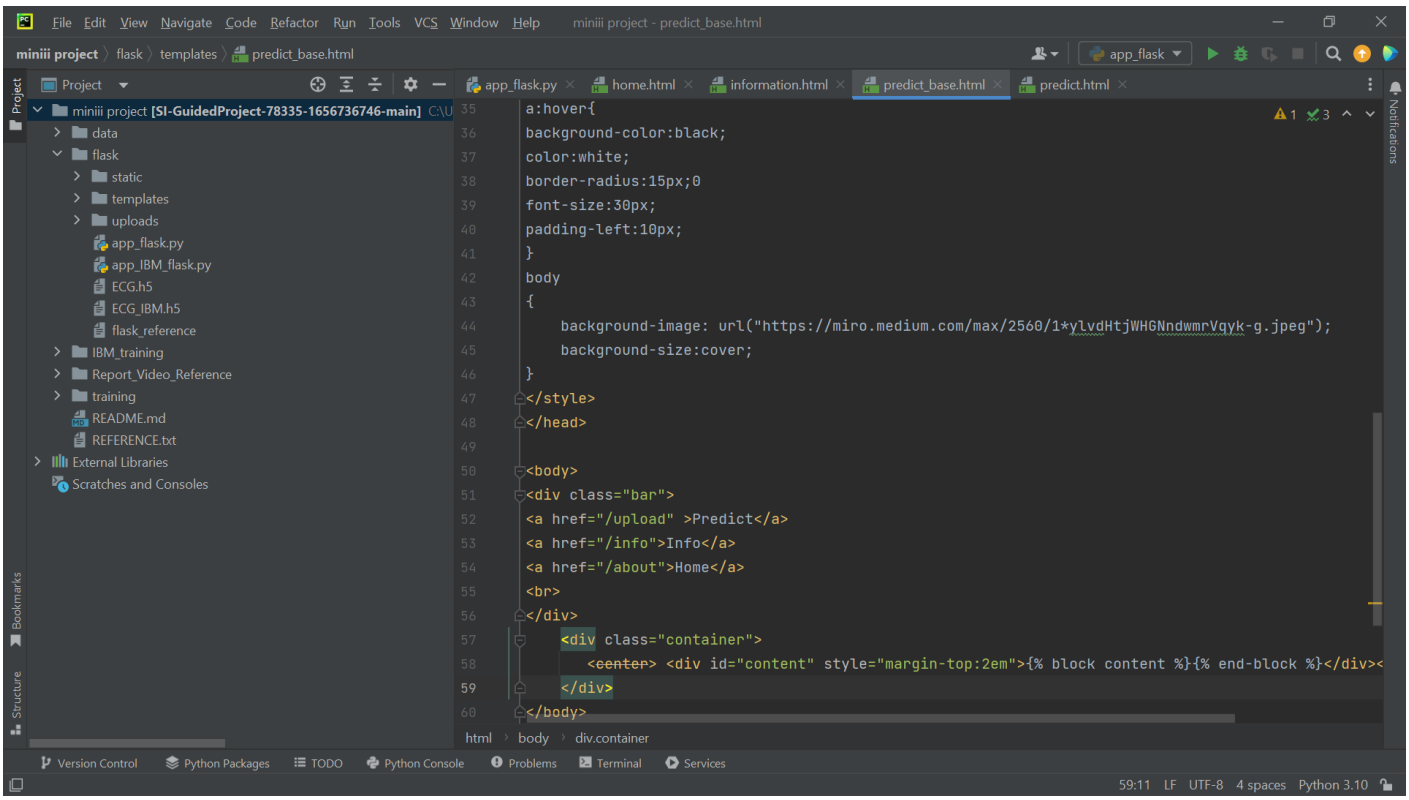
The HTML file used to build the Home.html



The HTML file used to build the information.hmtl



The HTML file used to build the predict_base.html



The HTML file used to build the predicate.html