Project 2 (Due Feb 24)

No.	Class	Fragments number	Patients number
1	Normal sinus rhythm	283	23
2	Atrial premature beat	66	9
3	Atrial flutter	20	3
4	Atrial fibrillation	135	6
5	Supraventricular tachyarrhythmia	13	4
6	Pre-excitation (WPW)	21	1
7	Premature ventricular contraction	133	14
8	Ventricular bigeminy	55	7
9	Ventricular trigeminy	13	4
10	Ventricular tachycardia	10	3
11	Idioventricular rhythm	10	1
12	Ventricular flutter	10	1
13	Fusion of ventricular and normal beat	11	3
14	Left bundle branch block beat	103	3
15	Right bundle branch block beat	62	3
16	Second-degree heart block	10	1
17	Pacemaker rhythm	45	2
	Sum	1000	45

Data Description (Data are in mat format (MATLAB).:

The ECG signals were obtained from the MIT-BIH Arrhythmia database. Data is described below.

1) The ECG signals were from 45 patients: 19 females (age: 23-89) and 26 males (age: 32-89).

2) The ECG signals contained 17 classes: normal sinus rhythm, pacemaker rhythm, and 15 types of cardiac dysfunctions (for each of which at least 10 signal fragments were collected).

3) All ECG signals were recorded at a sampling frequency of 360 Hz and a gain of 200 [adu / mV].

4) 1000 10-second (3600 samples) fragments of the ECG signal (not overlapping) were randomly selected.

Option 1: Develop effective methods for the automatic recognition of myocardium dysfunctions based on ECG signals modeled on the work of cardiologists

Option 2: Educate us about what are these 17 classes (key biological patterns for each class) (PPT presentation)

Option 3: Present one paper for ECG data analysis, and you can choose any paper published within two years. (PPT presentation)