



1. Begin: The program starts here. This is the initial step where all operations begin.

2. Open File

:The program begins the process of opening an ECG file. This is where the file is accessed for reading.

3. Can the file be opened? :A decision is made whether the file can be opened. If the file cannot be opened, the program will stop. If the file opens successfully, the process continues.

- . Yes: If the file is successfully opened, proceed to read the data.
- . No: If the file cannot be opened, show an error message.

4. Yes(Read lines):If the file is opened successfully, the program reads the lines from the file. Each line contains time and voltage values that will be processed.

5. No(Show error message):If the file cannot be opened, an error message is displayed to inform the user: "File cannot be opened." The program then stops here.

6. Store Data :The time and voltage values extracted from each line are stored in arrays or vectors. These values are stored for further processing and analysis.

7. Close File :After reading the data, the program closes the file. This step ensures that the file is no longer in use and releases any resources tied to it.

8. Start analyzing ECG data :The program begins analyzing the ECG data that was read from the file. This could involve various processes like signal processing or detecting patterns.

9. Classify Data:The data is classified based on the voltage values:

10.Can the file be opened? :A decision is made whether the file can be opened. If the file cannot be opened, the program will stop. If the file opens successfully, the process continues.

11. Yes(Write results):If the file is opened successfully, the program write results to corresponding files.

12. No(Show error message):If the file cannot be opened, an error message is displayed to inform the user: "File cannot be opened." The program then stops here.

13. Write Results:The classified data is written to separate files according to their categories (tachycardia, bradycardia, and normal). Each category's results are stored in different files for easy access.

14.Can the file be opened? :A decision is made whether the file can be opened. If the file cannot be opened, the program will stop. If the file opens successfully, the process continues.

15. Yes(Combine results):If the file is opened successfully,combine analysis results into a final output file.

16. No(Show error message):If the file cannot be opened, an error message is displayed to inform the user: "File cannot be opened." The program then stops here.

17.Combine Results :The results from all the separate files are combined into one final output file. This step consolidates the results for easier review and presentation.

18. End :The program ends here. All tasks have been completed, and the program stops.

Summary of the Flow Diagram:

The flow diagram outlines the entire process of opening, reading, analyzing, and classifying ECG data. It starts with attempting to open a file, followed by reading and processing the data. The data is then classified based on voltage, written to separate files, and finally consolidated into a single output file. If the file cannot be opened at any point, the program will display an error message and terminate.