Random Forest Section:

1. train\_randomForest():
2. Arguments: x\_train (X data for training set), y\_train (the target of the training set), x\_test (X data for testing set ), y\_test (the target of the testing set), n\_ofTrees (No of trees needed in the model)
3. Description: This function can be used to train random forest classifier with no of trees needed and prints the accuracy of the trained model.

Cross validation Section:

1. evaluate\_cv\_model():
2. Arguments: model (object from the classifier of the model), x\_train (X data for training set), y\_train (the target of the training set), kFolds (no of folds needed).
3. Description: This function can be used to apply cross validation on the classifier passed as an argument and returns the accuracy.

Confusion Matrix & Classification Report:

1. plot\_confussionMatrix():
2. Arguments: clf (object from the classifier of the model), y\_test (target data for testing set), X\_test (the data of the testing set), st (a string add to the title of the plot).
3. Description: This function can be used to plot the confusion matrix of the model and returns the classification report.

ECG Data section:

1. Read ECG selected features data frame and specify the target column.
2. Split the data using train\_test\_split().
3. Train the model using train\_randomForest().
4. Evaluate the model using cross-validation using evaluate\_cv\_model().
5. Plot confusion matrix using plot\_confussionMatrix().
6. Display classification report returned from plot\_confussionMatrix().

EEG Data section:

1. Read EEG selected features data frame and specify the target column.
2. Split the data using train\_test\_split().
3. Train the model using train\_randomForest().
4. Evaluate the model using cross-validation using evaluate\_cv\_model().
5. Plot confusion matrix using plot\_confussionMatrix().
6. Display classification report returned from plot\_confussionMatrix().

ECG + EEG Data section:

1. Read EEG + ECG selected features data frame and specify the target column.
2. Split the data using train\_test\_split().
3. Train the model using train\_randomForest().
4. Evaluate the model using cross-validation using evaluate\_cv\_model().
5. Plot confusion matrix using plot\_confussionMatrix().
6. Display classification report returned from plot\_confussionMatrix().

Graph Accuracies section:

1. graph\_accuracy():
   1. Arguments: values\_w (List of the accuracies of the models with cross-validation), values\_wo (List of the accuracies of the models without cross-validation), st (a string add to the title of the plot).
   2. Description: This function can be used to plot the accuracies of the model used and differentiate between the accuracies before and after the cross validation in 3d bar chart.

Graph EEG Accuracies:

1. Create two lists one is for the accuracies of the models trained on EEG selected features before cross-validation and the second one is for the accuracies after cross-validation.
2. Graph the accuracies using graph\_accuracy().

Graph ECG Accuracies:

1. Create two lists one is for the accuracies of the models trained on ECG selected features before cross-validation and the second one is for the accuracies after cross-validation.
2. Graph the accuracies using graph\_accuracy().

Graph EEG + ECG Accuracies:

1. Create two lists one is for the accuracies of the models trained on ECG selected features before cross-validation and the second one is for the accuracies after cross-validation.
2. Graph the accuracies using graph\_accuracy().