As given in the description of course project, run_analysis.R follows the following set of steps:

1. Read the Training part of the data into following variables and adding 2 columns:
   - **feat** <- features.txt: 561 rows, 2 columns [List of all features]
   - **trainX** <- train/X_train.txt : 7352 rows , 561 columns [Training set]
   - **trainY** <- train/y_train.txt: 7352 rows , 1 column [Training labels]
   - **subTrainX** <- train/subject_train.txt: 7352 rows , 1 column [identifies the subject who performed the activity for each window sample]
   - 2 new columns **Subject** and **Activity** are then added into **trainX** to give us the **Training Dataframe**

2. Read the Test part of the data into following variables:
   - **testX** <- test/X_test.txt : 2947 rows , 561 columns [Test set]
   - **testY** <- test/y_test.txt: 2947 rows , 1 column [Test labels]
   - **subTestX** <- test/subject_test.txt: 2947 rows , 1 column [identifies the subject who performed the activity for each window sample]
   - 2 new columns **Subject** and **Activity** are then added into **testX** to give us the **Testing Dataframe**

3. **trainX** and **testX** are then **merged** into a single dataframe called **data** [10299 rows, 563 cols]

4. Only the columns containing mean and standard deviation are extracted out in **data** which reduces the number of columns to 68

5. The Activity column is replaced with string values of activities located in activityNames<-activity_labels.txt [6 rows , 2 columns] using plyr library's mapvalues function.

6. Column names are then appropriately named

7. A new dataset newData is created using reshape2 library with the help of **melt** and **dcast** functions.