Code Book

This Codebook provides variable names and steps taken for cleaning and merging data.

1. **Downloaded Dataset**
    a. Dataset downloaded and uploaded under the folder named UCI HAR Dataset

2. **Assigned Variables for Data**
    a. features <- features.txt : 561 rows, 2 columns
    Parameters selected for this dataset were recorded on a accelerometer and gyroscope with a 3-axial raw signal tAcc-XYZ and tGyro-XYZ
    b. activities <- activity_lables.txt : 6 rows, 2 columns
    The list of activities performed by 9/30 of the volunteer subjects, that created the corresponding data
    c. subject_test <- test/subject_test.txt :2947 rows, 1 column
    The volunteer test data observed
    d. x_test <- test/X_test.txt : 2947 rows, 561 columns
    Contains features of the test data
    e. y_test <- test/y_test.txt : 2947 rows, 1 column
    The activities labels for the test data
    f. subject_train <- test/subject_trian.txt : 7352 rows, 1 column
    Train data of 21/30 volunteer observed volunteers
    g. x_train <- test/X_train.txt :7352 rows ,561
    Contains features of the train data
    h. y_train <- test/y_train.txt : 7352 rows, 1 column
    i. The activities labels for the train data

3. **Merging the two data sets, Train and Test, making one data set**
    a. X (10299 rows, 561 column) merging x_train and x_test, using the rbind() function
    b. Y (10299 rows, 1 column) merging y_train and y_test, using the rbind() function
    c. Subject (10299 rows, 1 column) merging subkect_trian and subject_test using rbind()
    d. Merge_Data (10299 rows, 563 columns) merging Y and X, using cbind()

4. **Extracting the mean and standard deviation of the measurements**

a. TidyData (10299 rows, 88 columns), subsetting Merge_data, select columns: subject, code and measurements on the mean/standard deviation (std) for each measurement

5. **More descriptive activity names for the activities in the data set**
    a. code column i TidyData replaced with corresponding activity marked in the second column in the activities variables

6. **Descriptive variable names for the data set**
    a. activities replaced code (in TidyData)
    b. Accelerometer replaced Acc
    c. Gyroscope replaced Gyro
    d. Body replaced BodyBody
    e. Magnitude replaced Mag
    f. Frequency replaced character f
    g. Time replaced character t

7. **Second independent data set, containing average of each variable for each activity and each subject**
    a. FinalData (180 rows, 88 columns) a summarized version of TidyData, mean of each variable for each activity and each subject, after grouped by subject and activity.
    b. Export FinalData into FinalData.txt file