Codebook for Getting and Cleaning Data Course Project

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The data was downloaded from the Internet and unzipped. The following files were loaded into R: Activity\_Labels, Features, Subject\_train, Subject\_test, x\_train, x\_test, y\_train, y\_test. The Features table is going to become the column headings, so at this point the text was cleaned up to remove “()” and “-“ from the names. Once completed, the column headings from the Features table were added to the x\_test and x\_train tables. Column names “ActivityID” and “Activity” were added to y\_test and y\_train and “Subject” was added to Subject\_train and Subject\_test. Activity\_Labels were then merged with the y\_test and y\_train tables. Then one table was created that contained all the data, called mergedAll.

Once a table was created with all the data, a second table was created that only contained columns for means and standard deviations, called justMeanStd.

Finally, a table was created that contained the means of every column, grouped by Subject and Activity, called AveragesbySubjAct.

The table contains the following columns:

"x" – a row ID

"Subject" – subject ID Number

"Activity" – Activity name

The code book for the original data provided the following descriptions of the data:

- Fields with total\_acc\_x: The acceleration signal from the smartphone accelerometer X axis in standard gravity units 'g'. The same applies to the Y and Z axis

- Fields with body\_acc: The body acceleration signal obtained by subtracting the gravity from the total acceleration.

- Fields with body\_gyro: The angular velocity vector measured by the gyroscope for each window sample. The units are radians/second.

The following columns were included in the final tidy data set:

"tBodyAcc.mean.X"

"tBodyAcc.mean.Y"

"tBodyAcc.mean.Z"

"tGravityAcc.mean.X"

"tGravityAcc.mean.Y"

"tGravityAcc.mean.Z"

"tBodyAccJerk.mean.X"

"tBodyAccJerk.mean.Y"

"tBodyAccJerk.mean.Z"

"tBodyGyro.mean.X"

"tBodyGyro.mean.Y"

"tBodyGyro.mean.Z"

"tBodyGyroJerk.mean.X"

"tBodyGyroJerk.mean.Y"

"tBodyGyroJerk.mean.Z"

"tBodyAccMag.mean"

"tGravityAccMag.mean"

"tBodyAccJerkMag.mean"

"tBodyGyroMag.mean"

"tBodyGyroJerkMag.mean"

"fBodyAcc.mean.X"

"fBodyAcc.mean.Y"

"fBodyAcc.mean.Z"

"fBodyAcc.meanFreq.X"

"fBodyAcc.meanFreq.Y"

"fBodyAcc.meanFreq.Z"

"fBodyAccJerk.mean.X"

"fBodyAccJerk.mean.Y"

"fBodyAccJerk.mean.Z"

"fBodyAccJerk.meanFreq.X"

"fBodyAccJerk.meanFreq.Y"

"fBodyAccJerk.meanFreq.Z"

"fBodyGyro.mean.X"

"fBodyGyro.mean.Y"

"fBodyGyro.mean.Z"

"fBodyGyro.meanFreq.X"

"fBodyGyro.meanFreq.Y"

"fBodyGyro.meanFreq.Z"

"fBodyAccMag.mean"

"fBodyAccMag.meanFreq"

"fBodyBodyAccJerkMag.mean"

"fBodyBodyAccJerkMag.meanFreq"

"fBodyBodyGyroMag.mean"

"fBodyBodyGyroMag.meanFreq"

"fBodyBodyGyroJerkMag.mean"

"fBodyBodyGyroJerkMag.meanFreq"

"tBodyAcc.std.X"

"tBodyAcc.std.Y"

"tBodyAcc.std.Z"

"tGravityAcc.std.X"

"tGravityAcc.std.Y"

"tGravityAcc.std.Z"

"tBodyAccJerk.std.X"

"tBodyAccJerk.std.Y"

"tBodyAccJerk.std.Z"

"tBodyGyro.std.X"

"tBodyGyro.std.Y"

"tBodyGyro.std.Z"

"tBodyGyroJerk.std.X"

"tBodyGyroJerk.std.Y"

"tBodyGyroJerk.std.Z"

"tBodyAccMag.std"

"tGravityAccMag.std"

"tBodyAccJerkMag.std"

"tBodyGyroMag.std"

"tBodyGyroJerkMag.std"

"fBodyAcc.std.X"

"fBodyAcc.std.Y"

"fBodyAcc.std.Z"

"fBodyAccJerk.std.X"

"fBodyAccJerk.std.Y"

"fBodyAccJerk.std.Z"

"fBodyGyro.std.X"

"fBodyGyro.std.Y"

"fBodyGyro.std.Z"

"fBodyAccMag.std"

"fBodyBodyAccJerkMag.std"

"fBodyBodyGyroMag.std"

"fBodyBodyGyroJerkMag.std"