

DATA Dictionary – Cleaning Data

The table below shows the variables found in the TidyData table that is generated. A summarized description of the variable names is given below.

Variable Name	Description
Subject	This is the identity of the subject that is conducting the measurement. There are altogether 30 subjects numbering 1 to 30
Activity	This is the type of activity is being performed when the measurement is taken. The activity are as follows : WALKING, WALKING UPSTAIRS, WALKING DOWNSTAIRS, SITTING, STANDING, LAYING
<p>The following are the explanation of the description of the variables below :</p> <p>The features selected for this database come from the accelerometer and gyroscope 3-axial raw signals tAcc-XYZ and tGyro-XYZ. These time domain signals (prefix 't' to denote time) were captured at a constant rate of 50 Hz. Then they were filtered using a median filter and a 3rd order low pass Butterworth filter with a corner frequency of 20 Hz to remove noise. Similarly, the acceleration signal was then separated into body and gravity acceleration signals (tBodyAcc-XYZ and tGravityAcc-XYZ) using another low pass Butterworth filter with a corner frequency of 0.3 Hz.</p> <p>Subsequently, the body linear acceleration and angular velocity were derived in time to obtain Jerk signals (tBodyAccJerk-XYZ and tBodyGyroJerk-XYZ). Also the magnitude of these three-dimensional signals were calculated using the Euclidean norm (tBodyAccMag, tGravityAccMag, tBodyAccJerkMag, tBodyGyroMag, tBodyGyroJerkMag).</p> <p>The “f” in the prefix of some variables refers to the Fast Fourier Transform (FFT) being applied to some of these signals producing fBodyAcc-XYZ, fBodyAccJerk-XYZ, fBodyGyro-XYZ, fBodyAccJerkMag, fBodyGyroMag, fBodyGyroJerkMag. (Note the 'f' to indicate frequency domain signals).</p> <p>'-X,Y,Z' is used to denote 3-axial signals in the X, Y and Z directions.</p> <p>The “mean()” or “std()” in variable refers to the mean and standard deviation of the measurement taken.</p> <p>Each observation (row) refers to subject-activity combination, ie 1-WALKING (Subject 1 WALKING while taking the measurement, 30-LAYING (Subject 30 LAYING while taking the measurement) etc.</p> <p>There are altogether 33 mean and 33 standard deviation summaries. As there are 30 subjects and 6 mode of activities, there are altogether 180 observations for each variable.</p>	
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	
fBodyAccJerk-mean()-X	
fBodyAccJerk-mean()-Y	
fBodyAccJerk-mean()-Z	
fBodyGyro-mean()-X	
fBodyGyro-mean()-Y	
fBodyGyro-mean()-Z	
fBodyAccMag-mean()	
fBodyBodyAccJerkMag-mean()	
fBodyBodyGyroMag-mean()	
fBodyBodyGyroJerkMag-mean()	
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()	