# Code Book for DataCleansProject1

## body\_movement\_observation\_sample.csv

| **Column Name** | **Description** | **Source & Transformations** |
| --- | --- | --- |
| tBodyAcc.mean.X | time domain body Accelerometer mean on the X axis | X\_test, X\_train |
| tBodyAcc.mean.Y | time domain body Accelerometer mean on the Y axis | X\_test, X\_train |
| tBodyAcc.mean.Z | time domain body Accelerometer mean on the Z axis | X\_test, X\_train |
| tGravityAcc.mean.X | time domain gravity Accelerometer mean on the X axis | X\_test, X\_train |
| tGravityAcc.mean.Y | time domain gravity Accelerometer mean on the Y axis | X\_test, X\_train |
| tGravityAcc.mean.Z | time domain gravity Accelerometer mean on the Z axis | X\_test, X\_train |
| tBodyAccJerk.mean.X | time domain body Accelerometer Jerk mean on the X axis | X\_test, X\_train |
| tBodyAccJerk.mean.Y | time domain body Accelerometer Jerk mean on the Y axis | X\_test, X\_train |
| tBodyAccJerk.mean.Z | time domain body Accelerometer Jerk mean on the Z axis | X\_test, X\_train |
| tBodyGyro.mean.X | time domain body Gryroscope mean on the X axis | X\_test, X\_train |
| tBodyGyro.mean.Y | time domain body Gryroscope mean on the Y axis | X\_test, X\_train |
| tBodyGyro.mean.Z | time domain body Gryroscope mean on the Z axis | X\_test, X\_train |
| tBodyGyroJerk.mean.X | time domain body Gyroscope Jerk mean on the X axis | X\_test, X\_train |
| tBodyGyroJerk.mean.Y | time domain body Gyroscope Jerk mean on the Y axis | X\_test, X\_train |
| tBodyGyroJerk.mean.Z | time domain body Gyroscope Jerk mean on the Z axis | X\_test, X\_train |
| tBodyAccMag.mean | time domain body Accelerometer Magnitude mean | X\_test, X\_train |
| tGravityAccMag.mean | time domain gravity Accelerometer Magnitude mean | X\_test, X\_train |
| tBodyAccJerkMag.mean | time domain body Accelerometer Jerk Magnitude mean | X\_test, X\_train |
| tBodyGyroMag.mean | time domain body Gyroscope Magnitude mean | X\_test, X\_train |
| tBodyGyroJerkMag.mean | time domain body Gyroscope Jerk Magnitude mean | X\_test, X\_train |
| fBodyAcc.mean.X | Fast Fourier Transform (FFT) of body Accelerometer mean on the X axis | X\_test, X\_train |
| fBodyAcc.mean.Y | Fast Fourier Transform (FFT) of body Accelerometer mean on the Y axis | X\_test, X\_train |
| fBodyAcc.mean.Z | Fast Fourier Transform (FFT) of body Accelerometer mean on the Z axis | X\_test, X\_train |
| fBodyAcc.meanFreq.X | Fast Fourier Transform (FFT) of body Accelerometer mean Frequency on the X axis | X\_test, X\_train |
| fBodyAcc.meanFreq.Y | Fast Fourier Transform (FFT) of body Accelerometer mean Frequency on the Y axis | X\_test, X\_train |
| fBodyAcc.meanFreq.Z | Fast Fourier Transform (FFT) of body Accelerometer mean Frequency on the Z axis | X\_test, X\_train |
| fBodyAccJerk.mean.X | Fast Fourier Transform (FFT) of body Accelerometer Jerk mean on the X axis | X\_test, X\_train |
| fBodyAccJerk.mean.Y | Fast Fourier Transform (FFT) of body Accelerometer Jerk mean on the Y axis | X\_test, X\_train |
| fBodyAccJerk.mean.Z | Fast Fourier Transform (FFT) of body Accelerometer Jerk mean on the Z axis | X\_test, X\_train |
| fBodyAccJerk.meanFreq.X | Fast Fourier Transform (FFT) of body Accelerometer Jerk mean Frequency on the X axis | X\_test, X\_train |
| fBodyAccJerk.meanFreq.Y | Fast Fourier Transform (FFT) of body Accelerometer Jerk mean Frequency on the Y axis | X\_test, X\_train |
| fBodyAccJerk.meanFreq.Z | Fast Fourier Transform (FFT) of body Accelerometer Jerk mean Frequency on the Z axis | X\_test, X\_train |
| fBodyGyro.mean.X | Fast Fourier Transform (FFT) of body Gryroscope mean on the X axis | X\_test, X\_train |
| fBodyGyro.mean.Y | Fast Fourier Transform (FFT) of body Gryroscope mean on the Y axis | X\_test, X\_train |
| fBodyGyro.mean.Z | Fast Fourier Transform (FFT) of body Gryroscope mean on the Z axis | X\_test, X\_train |
| fBodyGyro.meanFreq.X | Fast Fourier Transform (FFT) of body Gryroscope mean Frequency on the X axis | X\_test, X\_train |
| fBodyGyro.meanFreq.Y | Fast Fourier Transform (FFT) of body Gryroscope mean Frequency on the Y axis | X\_test, X\_train |
| fBodyGyro.meanFreq.Z | Fast Fourier Transform (FFT) of body Gryroscope mean Frequency on the Z axis | X\_test, X\_train |
| fBodyAccMag.mean | Fast Fourier Transform (FFT) of body Accelerometer Magnitude mean | X\_test, X\_train |
| fBodyAccMag.meanFreq | Fast Fourier Transform (FFT) of body Accelerometer Magnitude mean Frequency | X\_test, X\_train |
| fBodyBodyAccJerkMag.mean | Fast Fourier Transform (FFT) of body Accelerometer Jerk Magnitude mean | X\_test, X\_train |
| fBodyBodyAccJerkMag.meanFreq | Fast Fourier Transform (FFT) of body Accelerometer Jerk Magnitude mean Frequency | X\_test, X\_train |
| fBodyBodyGyroMag.mean | Fast Fourier Transform (FFT) of body Gyroscope Magnitude mean | X\_test, X\_train |
| fBodyBodyGyroMag.meanFreq | Fast Fourier Transform (FFT) of body Gyroscope Magnitude mean Frequency | X\_test, X\_train |
| fBodyBodyGyroJerkMag.mean | Fast Fourier Transform (FFT) of body Gyroscope Jerk Magnitude mean | X\_test, X\_train |
| fBodyBodyGyroJerkMag.meanFreq | Fast Fourier Transform (FFT) of body Gyroscope Jerk Magnitude mean Frequency | X\_test, X\_train |
| angletBodyAccMean.gravity | angular time domain body Accelerometer Mean.gravity | X\_test, X\_train |
| angletBodyAccJerkMean.gravityMean | angular time domain body Accelerometer Jerk gravity Mean | X\_test, X\_train |
| angletBodyGyroMean.gravityMean | angular time domain body Gyroscope gravity Mean | X\_test, X\_train |
| angletBodyGyroJerkMean.gravityMean | angular time domain body Gyroscope Jerk gravity Mean | X\_test, X\_train |
| angleX.gravityMean | angular X axis gravity Mean | X\_test, X\_train |
| angleY.gravityMean | angular Y axis gravity Mean | X\_test, X\_train |
| angleZ.gravityMean | angular Z axis gravity Mean | X\_test, X\_train |
| tBodyAcc.std.X | time domain body Accelerometer standard deviation on the X axis | X\_test, X\_train |
| tBodyAcc.std.Y | time domain body Accelerometer standard deviation on the Y axis | X\_test, X\_train |
| tBodyAcc.std.Z | time domain body Accelerometer standard deviation on the Z axis | X\_test, X\_train |
| tGravityAcc.std.X | time domain gravity Accelerometer standard deviation on the X axis | X\_test, X\_train |
| tGravityAcc.std.Y | time domain gravity Accelerometer standard deviation on the Y axis | X\_test, X\_train |
| tGravityAcc.std.Z | time domain gravity Accelerometer standard deviation on the Z axis | X\_test, X\_train |
| tBodyAccJerk.std.X | time domain body Accelerometer Jerk standard deviation on the X axis | X\_test, X\_train |
| tBodyAccJerk.std.Y | time domain body Accelerometer Jerk standard deviation on the Y axis | X\_test, X\_train |
| tBodyAccJerk.std.Z | time domain body Accelerometer Jerk standard deviation on the Z axis | X\_test, X\_train |
| tBodyGyro.std.X | time domain body Gryroscope std on the X axis | X\_test, X\_train |
| tBodyGyro.std.Y | time domain body Gryroscope std on the Y axis | X\_test, X\_train |
| tBodyGyro.std.Z | time domain body Gryroscope std on the Z axis | X\_test, X\_train |
| tBodyGyroJerk.std.X | time domain body Gyroscope Jerk standard deviation on the X axis | X\_test, X\_train |
| tBodyGyroJerk.std.Y | time domain body Gyroscope Jerk standard deviation on the Y axis | X\_test, X\_train |
| tBodyGyroJerk.std.Z | time domain body Gyroscope Jerk standard deviation on the Z axis | X\_test, X\_train |
| tBodyAccMag.std | time domain body Accelerometer Magnitude standard deviation | X\_test, X\_train |
| tGravityAccMag.std | time domain gravity Accelerometer Magnitude standard deviation | X\_test, X\_train |
| tBodyAccJerkMag.std | time domain body Accelerometer Jerk Magnitude standard deviation | X\_test, X\_train |
| tBodyGyroMag.std | time domain body Gyroscope Magnitude standard deviation | X\_test, X\_train |
| tBodyGyroJerkMag.std | time domain body Gyroscope Jerk Magnitude standard deviation | X\_test, X\_train |
| fBodyAcc.std.X | Fast Fourier Transform (FFT) of body Accelerometer standard deviation on the X axis | X\_test, X\_train |
| fBodyAcc.std.Y | Fast Fourier Transform (FFT) of body Accelerometer standard deviation on the Y axis | X\_test, X\_train |
| fBodyAcc.std.Z | Fast Fourier Transform (FFT) of body Accelerometer standard deviation on the Z axis | X\_test, X\_train |
| fBodyAccJerk.std.X | Fast Fourier Transform (FFT) of body Accelerometer Jerk standard deviation on the X axis | X\_test, X\_train |
| fBodyAccJerk.std.Y | Fast Fourier Transform (FFT) of body Accelerometer Jerk standard deviation on the Y axis | X\_test, X\_train |
| fBodyAccJerk.std.Z | Fast Fourier Transform (FFT) of body Accelerometer Jerk standard deviation on the Z axis | X\_test, X\_train |
| fBodyGyro.std.X | Fast Fourier Transform (FFT) of body Gryroscope std on the X axis | X\_test, X\_train |
| fBodyGyro.std.Y | Fast Fourier Transform (FFT) of body Gryroscope std on the Y axis | X\_test, X\_train |
| fBodyGyro.std.Z | Fast Fourier Transform (FFT) of body Gryroscope std on the Z axis | X\_test, X\_train |
| fBodyAccMag.std | Fast Fourier Transform (FFT) of body Accelerometer Magnitude standard deviation | X\_test, X\_train |
| fBodyBodyAccJerkMag.std | Fast Fourier Transform (FFT) of body Accelerometer Jerk Magnitude standard deviation | X\_test, X\_train |
| fBodyBodyGyroMag.std | Fast Fourier Transform (FFT) of body Gyroscope Magnitude standard deviation | X\_test, X\_train |
| fBodyBodyGyroJerkMag.std | Fast Fourier Transform (FFT) of body Gyroscope Jerk Magnitude standard deviation | X\_test, X\_train |
| activity\_code | code for the activity being observed. | Y\_test, Y\_train |
| activity | activity related to activity code | activity\_labels - matched to activity\_code value |
| subject\_code | unique code to identify each testing or training subject | subject\_test, subject\_train |
|  | values are test for testing group, train for training group | X\_test observations are marked "test", X\_train are marked "train" |

## body\_movement\_observation\_means.csv

Source is dataframe that created body\_movement\_observation\_sample.csv

|  |  |  |
| --- | --- | --- |
| **Column Name** | **Description** | **Transformations** |
| activity | code for the activity being observed. | group by field |
| activity\_code | activity related to activity code | group by field |
| group | unique code to identify each testing or training subject | group by field |
| subject\_code | values are test for testing group, train for training group | group by field |
| mean\_tBodyAcc.mean.X | Mean of time domain body Accelerometer mean on the X axis | mean of referenced column |
| mean\_tBodyAcc.mean.Y | Mean of time domain body Accelerometer mean on the Y axis | mean of referenced column |
| mean\_tBodyAcc.mean.Z | Mean of time domain body Accelerometer mean on the Z axis | mean of referenced column |
| mean\_tGravityAcc.mean.X | Mean of time domain gravity Accelerometer mean on the X axis | mean of referenced column |
| mean\_tGravityAcc.mean.Y | Mean of time domain gravity Accelerometer mean on the Y axis | mean of referenced column |
| mean\_tGravityAcc.mean.Z | Mean of time domain gravity Accelerometer mean on the Z axis | mean of referenced column |
| mean\_tBodyAccJerk.mean.X | Mean of time domain body Accelerometer Jerk mean on the X axis | mean of referenced column |
| mean\_tBodyAccJerk.mean.Y | Mean of time domain body Accelerometer Jerk mean on the Y axis | mean of referenced column |
| mean\_tBodyAccJerk.mean.Z | Mean of time domain body Accelerometer Jerk mean on the Z axis | mean of referenced column |
| mean\_tBodyGyro.mean.X | Mean of time domain body Gryroscope mean on the X axis | mean of referenced column |
| mean\_tBodyGyro.mean.Y | Mean of time domain body Gryroscope mean on the Y axis | mean of referenced column |
| mean\_tBodyGyro.mean.Z | Mean of time domain body Gryroscope mean on the Z axis | mean of referenced column |
| mean\_tBodyGyroJerk.mean.X | Mean of time domain body Gyroscope Jerk mean on the X axis | mean of referenced column |
| mean\_tBodyGyroJerk.mean.Y | Mean of time domain body Gyroscope Jerk mean on the Y axis | mean of referenced column |
| mean\_tBodyGyroJerk.mean.Z | Mean of time domain body Gyroscope Jerk mean on the Z axis | mean of referenced column |
| mean\_tBodyAccMag.mean | Mean of time domain body Accelerometer Magnitude mean | mean of referenced column |
| mean\_tGravityAccMag.mean | Mean of time domain gravity Accelerometer Magnitude mean | mean of referenced column |
| mean\_tBodyAccJerkMag.mean | Mean of time domain body Accelerometer Jerk Magnitude mean | mean of referenced column |
| mean\_tBodyGyroMag.mean | Mean of time domain body Gyroscope Magnitude mean | mean of referenced column |
| mean\_tBodyGyroJerkMag.mean | Mean of time domain body Gyroscope Jerk Magnitude mean | mean of referenced column |
| mean\_fBodyAcc.mean.X | Mean of Fast Fourier Transform (FFT) of body Accelerometer mean on the X axis | mean of referenced column |
| mean\_fBodyAcc.mean.Y | Mean of Fast Fourier Transform (FFT) of body Accelerometer mean on the Y axis | mean of referenced column |
| mean\_fBodyAcc.mean.Z | Mean of Fast Fourier Transform (FFT) of body Accelerometer mean on the Z axis | mean of referenced column |
| mean\_fBodyAcc.meanFreq.X | Mean of Fast Fourier Transform (FFT) of body Accelerometer mean Frequency on the X axis | mean of referenced column |
| mean\_fBodyAcc.meanFreq.Y | Mean of Fast Fourier Transform (FFT) of body Accelerometer mean Frequency on the Y axis | mean of referenced column |
| mean\_fBodyAcc.meanFreq.Z | Mean of Fast Fourier Transform (FFT) of body Accelerometer mean Frequency on the Z axis | mean of referenced column |
| mean\_fBodyAccJerk.mean.X | Mean of Fast Fourier Transform (FFT) of body Accelerometer Jerk mean on the X axis | mean of referenced column |
| mean\_fBodyAccJerk.mean.Y | Mean of Fast Fourier Transform (FFT) of body Accelerometer Jerk mean on the Y axis | mean of referenced column |
| mean\_fBodyAccJerk.mean.Z | Mean of Fast Fourier Transform (FFT) of body Accelerometer Jerk mean on the Z axis | mean of referenced column |
| mean\_fBodyAccJerk.meanFreq.X | Mean of Fast Fourier Transform (FFT) of body Accelerometer Jerk mean Frequency on the X axis | mean of referenced column |
| mean\_fBodyAccJerk.meanFreq.Y | Mean of Fast Fourier Transform (FFT) of body Accelerometer Jerk mean Frequency on the Y axis | mean of referenced column |
| mean\_fBodyAccJerk.meanFreq.Z | Mean of Fast Fourier Transform (FFT) of body Accelerometer Jerk mean Frequency on the Z axis | mean of referenced column |
| mean\_fBodyGyro.mean.X | Mean of Fast Fourier Transform (FFT) of body Gryroscope mean on the X axis | mean of referenced column |
| mean\_fBodyGyro.mean.Y | Mean of Fast Fourier Transform (FFT) of body Gryroscope mean on the Y axis | mean of referenced column |
| mean\_fBodyGyro.mean.Z | Mean of Fast Fourier Transform (FFT) of body Gryroscope mean on the Z axis | mean of referenced column |
| mean\_fBodyGyro.meanFreq.X | Mean of Fast Fourier Transform (FFT) of body Gryroscope mean Frequency on the X axis | mean of referenced column |
| mean\_fBodyGyro.meanFreq.Y | Mean of Fast Fourier Transform (FFT) of body Gryroscope mean Frequency on the Y axis | mean of referenced column |
| mean\_fBodyGyro.meanFreq.Z | Mean of Fast Fourier Transform (FFT) of body Gryroscope mean Frequency on the Z axis | mean of referenced column |
| mean\_fBodyAccMag.mean | Mean of Fast Fourier Transform (FFT) of body Accelerometer Magnitude mean | mean of referenced column |
| mean\_fBodyAccMag.meanFreq | Mean of Fast Fourier Transform (FFT) of body Accelerometer Magnitude mean Frequency | mean of referenced column |
| mean\_fBodyBodyAccJerkMag.mean | Mean of Fast Fourier Transform (FFT) of body Accelerometer Jerk Magnitude mean | mean of referenced column |
| mean\_fBodyBodyAccJerkMag.meanFreq | Mean of Fast Fourier Transform (FFT) of body Accelerometer Jerk Magnitude mean Frequency | mean of referenced column |
| mean\_fBodyBodyGyroMag.mean | Mean of Fast Fourier Transform (FFT) of body Gyroscope Magnitude mean | mean of referenced column |
| mean\_fBodyBodyGyroMag.meanFreq | Mean of Fast Fourier Transform (FFT) of body Gyroscope Magnitude mean Frequency | mean of referenced column |
| mean\_fBodyBodyGyroJerkMag.mean | Mean of Fast Fourier Transform (FFT) of body Gyroscope Jerk Magnitude mean | mean of referenced column |
| mean\_fBodyBodyGyroJerkMag.meanFreq | Mean of Fast Fourier Transform (FFT) of body Gyroscope Jerk Magnitude mean Frequency | mean of referenced column |
| mean\_angletBodyAccMean.gravity | Mean of angular time domain body Accelerometer Mean.gravity | mean of referenced column |
| mean\_angletBodyAccJerkMean.gravityMean | Mean of angular time domain body Accelerometer Jerk gravity Mean | mean of referenced column |
| mean\_angletBodyGyroMean.gravityMean | Mean of angular time domain body Gyroscope gravity Mean | mean of referenced column |
| mean\_angletBodyGyroJerkMean.gravityMean | Mean of angular time domain body Gyroscope Jerk gravity Mean | mean of referenced column |
| mean\_angleX.gravityMean | Mean of angular X axis gravity Mean | mean of referenced column |
| mean\_angleY.gravityMean | Mean of angular Y axis gravity Mean | mean of referenced column |
| mean\_angleZ.gravityMean | Mean of angular Z axis gravity Mean | mean of referenced column |
| mean\_tBodyAcc.std.X | Mean of time domain body Accelerometer standard deviation on the X axis | mean of referenced column |
| mean\_tBodyAcc.std.Y | Mean of time domain body Accelerometer standard deviation on the Y axis | mean of referenced column |
| mean\_tBodyAcc.std.Z | Mean of time domain body Accelerometer standard deviation on the Z axis | mean of referenced column |
| mean\_tGravityAcc.std.X | Mean of time domain gravity Accelerometer standard deviation on the X axis | mean of referenced column |
| mean\_tGravityAcc.std.Y | Mean of time domain gravity Accelerometer standard deviation on the Y axis | mean of referenced column |
| mean\_tGravityAcc.std.Z | Mean of time domain gravity Accelerometer standard deviation on the Z axis | mean of referenced column |
| mean\_tBodyAccJerk.std.X | Mean of time domain body Accelerometer Jerk standard deviation on the X axis | mean of referenced column |
| mean\_tBodyAccJerk.std.Y | Mean of time domain body Accelerometer Jerk standard deviation on the Y axis | mean of referenced column |
| mean\_tBodyAccJerk.std.Z | Mean of time domain body Accelerometer Jerk standard deviation on the Z axis | mean of referenced column |
| mean\_tBodyGyro.std.X | Mean of time domain body Gryroscope std on the X axis | mean of referenced column |
| mean\_tBodyGyro.std.Y | Mean of time domain body Gryroscope std on the Y axis | mean of referenced column |
| mean\_tBodyGyro.std.Z | Mean of time domain body Gryroscope std on the Z axis | mean of referenced column |
| mean\_tBodyGyroJerk.std.X | Mean of time domain body Gyroscope Jerk standard deviation on the X axis | mean of referenced column |
| mean\_tBodyGyroJerk.std.Y | Mean of time domain body Gyroscope Jerk standard deviation on the Y axis | mean of referenced column |
| mean\_tBodyGyroJerk.std.Z | Mean of time domain body Gyroscope Jerk standard deviation on the Z axis | mean of referenced column |
| mean\_tBodyAccMag.std | Mean of time domain body Accelerometer Magnitude standard deviation | mean of referenced column |
| mean\_tGravityAccMag.std | Mean of time domain gravity Accelerometer Magnitude standard deviation | mean of referenced column |
| mean\_tBodyAccJerkMag.std | Mean of time domain body Accelerometer Jerk Magnitude standard deviation | mean of referenced column |
| mean\_tBodyGyroMag.std | Mean of time domain body Gyroscope Magnitude standard deviation | mean of referenced column |
| mean\_tBodyGyroJerkMag.std | Mean of time domain body Gyroscope Jerk Magnitude standard deviation | mean of referenced column |
| mean\_fBodyAcc.std.X | Mean of Fast Fourier Transform (FFT) of body Accelerometer standard deviation on the X axis | mean of referenced column |
| mean\_fBodyAcc.std.Y | Mean of Fast Fourier Transform (FFT) of body Accelerometer standard deviation on the Y axis | mean of referenced column |
| mean\_fBodyAcc.std.Z | Mean of Fast Fourier Transform (FFT) of body Accelerometer standard deviation on the Z axis | mean of referenced column |
| mean\_fBodyAccJerk.std.X | Mean of Fast Fourier Transform (FFT) of body Accelerometer Jerk standard deviation on the X axis | mean of referenced column |
| mean\_fBodyAccJerk.std.Y | Mean of Fast Fourier Transform (FFT) of body Accelerometer Jerk standard deviation on the Y axis | mean of referenced column |
| mean\_fBodyAccJerk.std.Z | Mean of Fast Fourier Transform (FFT) of body Accelerometer Jerk standard deviation on the Z axis | mean of referenced column |
| mean\_fBodyGyro.std.X | Mean of Fast Fourier Transform (FFT) of body Gryroscope std on the X axis | mean of referenced column |
| mean\_fBodyGyro.std.Y | Mean of Fast Fourier Transform (FFT) of body Gryroscope std on the Y axis | mean of referenced column |
| mean\_fBodyGyro.std.Z | Mean of Fast Fourier Transform (FFT) of body Gryroscope std on the Z axis | mean of referenced column |
| mean\_fBodyAccMag.std | Mean of Fast Fourier Transform (FFT) of body Accelerometer Magnitude standard deviation | mean of referenced column |
| mean\_fBodyBodyAccJerkMag.std | Mean of Fast Fourier Transform (FFT) of body Accelerometer Jerk Magnitude standard deviation | mean of referenced column |
| mean\_fBodyBodyGyroMag.std | Mean of Fast Fourier Transform (FFT) of body Gyroscope Magnitude standard deviation | mean of referenced column |
| mean\_fBodyBodyGyroJerkMag.std | Mean of Fast Fourier Transform (FFT) of body Gyroscope Jerk Magnitude standard deviation | mean of referenced column |