Data Dictionary

The data for this project was obtained from the UCI Machine Learning Repository (http://archive.ics.uci.edu/ml/datasets/Human+Activity+Recognition+Using+Smartphones), and the original data (Human Activity Recognition Using Smartphones Dataset Version 1.0) were produced by Jorge L. Reyes-Ortiz, Davide Anguita, Alessandro Ghio, Luca Oneto of Smartlab (www.smartlab.ws).

The data were collected from the gyroscope and accelerometer in a Samsung cell phone during various activities:

1 WALKING
2 WALKING_UPSTAIRS
3 WALKING_DOWNSTAIRS
4 SITTING
5 STANDING
6 LAYING

From initial measurements, a number of metrics were produced. For this project I selected all metrics that represented the mean or standard deviation of raw data. While this produces 66 metrics, there were additional calculations made by "averaging the signals in a signal window sample", and it seemed reasonable to include these in a data frame of means and standard deviations. Hence there are 86 columns of data plus a "subject" column and an "activity" column.

1 subject
2 tBodyAcc-mean()-X
3 tBodyAcc-mean()-Y
4 tBodyAcc-mean()-Z
5 tBodyAcc-std()-X
6 tBodyAcc-std()-Y
7 tBodyAcc-std()-Z
8 tGravityAcc-mean()-X
9 tGravityAcc-mean()-Y
10 tGravityAcc-mean()-Z
11 tGravityAcc-std()-X
12 tGravityAcc-std()-Y
13 tGravityAcc-std()-Z
14 tBodyAccJerk-mean()-X
15 tBodyAccJerk-mean()-Y
16 tBodyAccJerk-mean()-Z
17 tBodyAccJerk-std()-X
18 tBodyAccJerk-std()-Y
19 tBodyAccJerk-std()-Z
20 tBodyGyro-mean()-X
21 tBodyGyro-mean()-Y
22 tBodyGyro-mean()-Z

23 tBodyGyro-std()-X
24 tBodyGyro-std()-Y
25 tBodyGyro-std()-Z
26 tBodyGyroJerk-mean()-X
27 tBodyGyroJerk-mean()-Y
28 tBodyGyroJerk-mean()-Z
29 tBodyGyroJerk-std()-X
30 tBodyGyroJerk-std()-Y
31 tBodyGyroJerk-std()-Z
32 tBodyAccMag-mean()
33 tBodyAccMag-std()
34 tGravityAccMag-mean()
35 tGravityAccMag-std()
36 tBodyAccJerkMag-mean()
37 tBodyAccJerkMag-std()
38 tBodyGyroMag-mean()
39 tBodyGyroMag-std()
40 tBodyGyroJerkMag-mean()
41 tBodyGyroJerkMag-std()
42 fBodyAcc-mean()-X
43 fBodyAcc-mean()-Y
44 fBodyAcc-mean()-Z
45 fBodyAcc-std()-X
46 fBodyAcc-std()-Y
47 fBodyAcc-std()-Z
48 fBodyAcc-meanFreq()-X
49 fBodyAcc-meanFreq()-Y
50 fBodyAcc-meanFreq()-Z
51 fBodyAccJerk-mean()-X
52 fBodyAccJerk-mean()-Y
53 fBodyAccJerk-mean()-Z
54 fBodyAccJerk-std()-X
55 fBodyAccJerk-std()-Y
56 fBodyAccJerk-std()-Z
57 fBodyAccJerk-meanFreq()-X
58 fBodyAccJerk-meanFreq()-Y
59 fBodyAccJerk-meanFreq()-Z
60 fBodyGyro-mean()-X
61 fBodyGyro-mean()-Y
62 fBodyGyro-mean()-Z
63 fBodyGyro-std()-X
64 fBodyGyro-std()-Y
65 fBodyGyro-std()-Z

66 fBodyGyro-meanFreq()-X
67 fBodyGyro-meanFreq()-Y
68 fBodyGyro-meanFreq()-Z
69 fBodyAccMag-mean()
70 fBodyAccMag-std()
71 fBodyAccMag-meanFreq()
72 fBodyBodyAccJerkMag-mean()
73 fBodyBodyAccJerkMag-std()
74 fBodyBodyAccJerkMag-meanFreq()
75 fBodyBodyGyroMag-mean()
76 fBodyBodyGyroMag-std()
77 fBodyBodyGyroMag-meanFreq()
78 fBodyBodyGyroJerkMag-mean()
79 fBodyBodyGyroJerkMag-std()
80 fBodyBodyGyroJerkMag-meanFreq()
81 angle(tBodyAccMean,gravity)
82 angle(tBodyAccJerkMean),gravityMean)
83 angle(tBodyGyroMean,gravityMean)
84 angle(tBodyGyroJerkMean,gravityMean)
85 angle(X,gravityMean)
86 angle(Y,gravityMean)
87 angle(Z,gravityMean)
88 activity