CODE BOOK

This file contains the explanation of every variables of the file " ", that is given by run_analysis function.

In general all the data is a mean of certanly fields of the original project "Human Activity Recognition Using Smartphones Dataset"

Was selected only the fields o features that the names was contained "mean" or "std". Was excludes "Mean" because that was not properly a mean, that was the filter asked.

DESCRIPTION GENERAL OF NAMES

When the name beggining with "t" thats means time, when begining with "f" means frequency domain signals, that was applied to some of these signals.

there were distitincted the type of device with "Acc" Accelerometer and "Gyro" Gyroscope

The acceleration signal was separated into "Body" and "Gravity" acceleration.

"Jerks" is the Jerk signal obteined and "Mag" will be the magnitud calculated using the Euclidean norm.

“meanFreq” is the Weighted average of the frequency components to obtain a mean frequency

And finally X, Y y Z will be the cordenates in the moment the experiment was done.

NUMBERS, NAMES AND RANGE OF VALUES OF COLUMNS

COLUMN	COLUMN NAME	RANGE OF VALUES	
1	Activity	WALKING, WALKING_UPSTAIRS, WALKING_DOWNSTAIRS, SITTING, STANDING	
2	Subject	Min. : 1.0	Max. :30.0
3	tBodyAcc_mean_X	Min. :0.2216	Max. :0.3015
4	tBodyAcc_mean_Y	Min. :-0.040514	Max. :-0.001308
5	tBodyAcc_mean_Z	Min. :-0.15251	Max. :-0.07538
6	tGravityAcc_mean_X	Min. :-0.6800	Max. : 0.9745

7	tGravityAcc_mean_Y	Min. :-0.47989	Max. : 0.95659
8	tGravityAcc_mean_Z	Min. :-0.49509	Max. : 0.95787
9	tBodyAccJerk_mean_X	Min. :0.04269	Max. :0.13019
10	tBodyAccJerk_mean_Y	Min. :-0.0386872	Max. : 0.0568186
11	tBodyAccJerk_mean_Z	Min. :-0.067458	Max. : 0.038053
12	tBodyGyro_mean_X	Min. :-0.20578	Max. : 0.19270
13	tBodyGyro_mean_Y	Min. :-0.20421	Max. : 0.02747
14	tBodyGyro_mean_Z	Min. :-0.07245	Max. : 0.17910
15	tBodyGyroJerk_mean_X	Min. :-0.15721	Max. :-0.02209
16	tBodyGyroJerk_mean_Y	Min. :-0.07681	Max. :-0.01320
17	tBodyGyroJerk_mean_Z	Min. :-0.092500	Max. :-0.006941
18	tBodyAccMag_mean	Min. :-0.9865	Max. : 0.6446
19	tGravityAccMag_mean	Min. :-0.9865	Max. : 0.6446
20	tBodyAccJerkMag_mean	Min. :-0.9928	Max. : 0.4345
21	tBodyGyroMag_mean	Min. :-0.9807	Max. : 0.4180
22	tBodyGyroJerkMag_mean	Min. :-0.99732	Max. : 0.08758
23	fBodyAcc_mean_X	Min. :-0.9952	Max. : 0.5370
24	fBodyAcc_mean_Y	Min. :-0.98903	Max. : 0.52419
25	fBodyAcc_mean_Z	Min. :-0.9895	Max. : 0.2807
26	fBodyAcc_meanFreq_X	Min. :-0.63591	Max. : 0.15912
27	fBodyAcc_meanFreq_Y	Min. :-0.379518	Max. : 0.466528
28	fBodyAcc_meanFreq_Z	Min. :-0.52011	Max. : 0.40253
29	fBodyAccJerk_mean_X	Min. :-0.9946	Max. : 0.4743
30	fBodyAccJerk_mean_Y	Min. :-0.9894	Max. : 0.2767
31	fBodyAccJerk_mean_Z	Min. :-0.9920	Max. : 0.1578
32	fBodyAccJerk_meanFreq_X	Min. :-0.57604	Max. : 0.33145
33	fBodyAccJerk_meanFreq_Y	Min. :-0.60197	Max. : 0.19568
34	fBodyAccJerk_meanFreq_Z	Min. :-0.62756	Max. : 0.23011
35	fBodyGyro_mean_X	Min. :-0.9931	Max. : 0.4750
36	fBodyGyro_mean_Y	Min. :-0.9940	Max. : 0.3288
37	fBodyGyro_mean_Z	Min. :-0.9860	Max. : 0.4924
38	fBodyGyro_meanFreq_X	Min. :-0.395770	Max. : 0.249209
39	fBodyGyro_meanFreq_Y	Min. :-0.66681	Max. : 0.27314
40	fBodyGyro_meanFreq_Z	Min. :-0.50749	Max. : 0.37707
41	fBodyAccMag_mean	Min. :-0.9868	Max. : 0.5866
42	fBodyAccMag_meanFreq	Min. :-0.31234	Max. : 0.43585
43	fBodyBodyAccJerkMag_mean	Min. :-0.9940	Max. : 0.5384
44	fBodyBodyAccJerkMag_meanFreq	Min. :-0.12521	Max. : 0.48809
45	fBodyBodyGyroMag_mean	Min. :-0.9865	Max. : 0.2040
46	fBodyBodyGyroMag_meanFreq	Min. :-0.45664	Max. : 0.40952
47	fBodyBodyGyroJerkMag_mean	Min. :-0.9976	Max. : 0.1466
48	fBodyBodyGyroJerkMag_meanFreq	Min. :-0.18292	Max. : 0.42630

49	tBodyAcc_std_X	Min. :-0.9961	Max. : 0.6269
50	tBodyAcc_std_Y	Min. :-0.99024	Max. : 0.61694
51	tBodyAcc_std_Z	Min. :-0.9877	Max. : 0.6090
52	tGravityAcc_std_X	Min. :-0.9968	Max. :-0.8296
53	tGravityAcc_std_Y	Min. :-0.9942	Max. :-0.6436
54	tGravityAcc_std_Z	Min. :-0.9910	Max. :-0.6102
55	tBodyAccJerk_std_X	Min. :-0.9946	Max. : 0.5443
56	tBodyAccJerk_std_Y	Min. :-0.9895	Max. : 0.3553
57	tBodyAccJerk_std_Z	Min. :-0.99329	Max. : 0.03102
58	tBodyGyro_std_X	Min. :-0.9943	Max. : 0.2677
59	tBodyGyro_std_Y	Min. :-0.9942	Max. : 0.4765
60	tBodyGyro_std_Z	Min. :-0.9855	Max. : 0.5649
61	tBodyGyroJerk_std_X	Min. :-0.9965	Max. : 0.1791
62	tBodyGyroJerk_std_Y	Min. :-0.9971	Max. : 0.2959
63	tBodyGyroJerk_std_Z	Min. :-0.9954	Max. : 0.1932
64	tBodyAccMag_std	Min. :-0.9865	Max. : 0.4284
65	tGravityAccMag_std	Min. :-0.9865	Max. : 0.4284
66	tBodyAccJerkMag_std	Min. :-0.9946	Max. : 0.4506
67	tBodyGyroMag_std	Min. :-0.9814	Max. : 0.3000
68	tBodyGyroJerkMag_std	Min. :-0.9977	Max. : 0.2502
69	fBodyAcc_std_X	Min. :-0.9966	Max. : 0.6585
70	fBodyAcc_std_Y	Min. :-0.99068	Max. : 0.56019
71	fBodyAcc_std_Z	Min. :-0.9872	Max. : 0.6871
72	fBodyAccJerk_std_X	Min. :-0.9951	Max. : 0.4768
73	fBodyAccJerk_std_Y	Min. :-0.9905	Max. : 0.3498
74	fBodyAccJerk_std_Z	Min. :-0.993108	Max. :-0.006236
75	fBodyGyro_std_X	Min. :-0.9947	Max. : 0.1966
76	fBodyGyro_std_Y	Min. :-0.9944	Max. : 0.6462
77	fBodyGyro_std_Z	Min. :-0.9867	Max. : 0.5225
78	fBodyAccMag_std	Min. :-0.9876	Max. : 0.1787
79	fBodyBodyAccJerkMag_std	Min. :-0.9944	Max. : 0.3163
80	fBodyBodyGyroMag_std	Min. :-0.9815	Max. : 0.2367
81	fBodyBodyGyroJerkMag_std	Min. :-0.9976	Max. : 0.2878