Introduction:

The data captures the information from an experiment carried on 30 people wearing a smartphone on their waist. The data captures 3-axial linear acceleration and 3-axial angular velocity at a constant rate of 50Hz. A vector of features from the time and frequency domain has been calculated for the two sets of data labeled test and training.

The source of the original data is here.

https://d396qusza40orc.cloudfront.net/getdata%2Fprojectfiles%2FUCI%20HAR%20Dataset.zip

The description of the original data is here.

http://archive.ics.uci.edu/ml/datasets/Human+Activity+Recognition+Using+Smartphones

Process:

The test and the training data set were read and appended together. The features.txt was used to name the variables. The variable names were made more descriptive for further processing. The activity labels were applied using the activity_labels.txt. The mean and std statistic variables are kept in the final dataset and the mean of those variable is calculated for retained variables by subject_id and the activity.

Variables:

The variables in the final tidy data set are explained below.

	Original Variable			
No.	Name	Final Variable Name	Description	Type
			Activity that was	
			performed. Acceptable	
			values are WALKING,	
			WALKING_UPSTAIRS,	
			WALKING DOWNSTAIRS,	
			SITTING,	
			STANDING,	
1		activity	LAYING	Character
			Id of the person	
			performing the activity.	
			Accepatable values are	
2		subject_id	from 1-30	Integer

			mean of time attribute	
3	tBodyAcc-mean()-X	time_body_acceleration_mean_x	of body acceleration in x	double
			mean of time attribute	
4	tBodyAcc-mean()-Y	time_body_acceleration_mean_y	of body acceleration in y	double
_			mean of time attribute	
5	tBodyAcc-mean()-Z	time_body_acceleration_mean_z	of body acceleration in z	double
			standard deviation of	
6	tBodyAcc-std()-X	time_body_acceleration_std_x	time attribute of body acceleration in x	double
0	tbody/icc std() A	time_body_deceleration_std_x	standard deviation of	double
			time attribute of body	
7	tBodyAcc-std()-Y	time_body_acceleration_std_y	acceleration in y	double
			standard deviation of	
			time attribute of body	
8	tBodyAcc-std()-Z	time_body_acceleration_std_z	acceleration in z	double
			mean of time attribute of gravity acceleration in	
9	tGravityAcc-mean()-X	time_gravity_acceleration_mean_x	x	double
,	coravity/100 mean() //	time_8.avity_assertation_mean_x	mean of time attribute	doddie
			of gravity acceleration in	
10	tGravityAcc-mean()-Y	time_gravity_acceleration_mean_y	У	double
			mean of time attribute	
11	tGravityAcc-mean()-Z	time_gravity_acceleration_mean_z	of gravity acceleration in z	double
-11	toravity/tee mean() 2	time_gravity_deceleration_mean_z	standard deviation of	double
			time attribute of gravity	
12	tGravityAcc-std()-X	time_gravity_acceleration_std_x	acceleration in x	double
			standard deviation of	
			time attribute of gravity	
13	tGravityAcc-std()-Y	time_gravity_acceleration_std_y	acceleration in y	double
			standard deviation of	
14	tGravityAcc-std()-Z	time_gravity_acceleration_std_z	time attribute of gravity acceleration in z	double
14	toravityAcc-stu(J-Z	time_gravity_acceleration_Stu_2	mean of time attribute	uoubie
			of body acceleration jerk	
15	tBodyAccJerk-mean()-X	time_body_acceleration_jerk_mean_x	in x	double
			mean of time attribute	
16	tBodyAccJerk-mean()-Y	time hody acceleration jork mean v	of body acceleration jerk	double
10	tbouyAccietK-Illedii()-Y	time_body_acceleration_jerk_mean_y	mean of time attribute	uoubie
			of body acceleration jerk	
17	tBodyAccJerk-mean()-Z	time_body_acceleration_jerk_mean_z	in z	double
			standard deviation of	
			time attribute of body	
18	tBodyAccJerk-std()-X	time_body_acceleration_jerk_std_x	acceleration jerk in x	double

			standard deviation of time attribute of body	
19	tBodyAccJerk-std()-Y	time_body_acceleration_jerk_std_y	acceleration jerk in y	double
			standard deviation of	
			time attribute of body	
20	tBodyAccJerk-std()-Z	time_body_acceleration_jerk_std_z	acceleration jerk in z	double
			mean of time attribute	
21	tBodyGyro-mean()-X	time_body_gyro_mean_x	of body gyro in x	double
			mean of time attribute	
22	tBodyGyro-mean()-Y	time_body_gyro_mean_y	of body gyro in y	double
			mean of time attribute	
23	tBodyGyro-mean()-Z	time_body_gyro_mean_z	of body gyro in z	double
			standard deviation of	
			time attribute of body	
24	tBodyGyro-std()-X	time_body_gyro_std_x	gyro in x	double
			standard deviation of	
			time attribute of body	
25	tBodyGyro-std()-Y	time_body_gyro_std_y	gyro in y	double
			standard deviation of	
			time attribute of body	1
26	tBodyGyro-std()-Z	time_body_gyro_std_z	gyro in z	double
			mean of time attribute	
27	tBodyGyroJerk-mean()-X	time_body_gyrojerk_mean_x	of body gyro jerk in x	double
			mean of time attribute	
28	tBodyGyroJerk-mean()-Y	time_body_gyrojerk_mean_y	of body gyro jerk in y	double
			mean of time attribute	
29	tBodyGyroJerk-mean()-Z	time_body_gyrojerk_mean_z	of body gyro jerk in z	double
			standard deviation of	
			time attribute of body	1
30	tBodyGyroJerk-std()-X	time_body_gyrojerk_std_x	gyro jerk in x	double
			standard deviation of	
21	+BodyCyrologles+d/\V	time hody gyrojark atd y	time attribute of body	double
31	tBodyGyroJerk-std()-Y	time_body_gyrojerk_std_y	gyro jerk in y standard deviation of	double
			time attribute of body	
32	tBodyGyroJerk-std()-Z	time_body_gyrojerk_std_z	gyro jerk in z	double
J2	tbodydyi osci k-sta(j-z	time_body_gyrojerk_std_z		double
			mean of time attribute	
33	tRodyAccMag moan/	time hody acceleration mag mean	of body acceleration magnitude in	double
33	tBodyAccMag-mean()	time_body_acceleration_mag_mean	standard deviation of	uoubie
			time attribute of body	
			acceleration magnitude	
34	tBodyAccMag-std()	time_body_acceleration_mag_std	in	double

36 to	tGravityAccMag-mean() tGravityAccMag-std() tBodyAccJerkMag-	time_gravity_acceleration_mag_mean time_gravity_acceleration_mag_std	of body acceleration magnitude in standard deviation of time attribute of body acceleration magnitude in	double
36 to	tGravityAccMag-std() tBodyAccJerkMag-		standard deviation of time attribute of body acceleration magnitude	double
ti	tBodyAccJerkMag-	time_gravity_acceleration_mag_std	time attribute of body acceleration magnitude	
ti	tBodyAccJerkMag-	time_gravity_acceleration_mag_std	acceleration magnitude	
ti	tBodyAccJerkMag-	time_gravity_acceleration_mag_std		
ti	tBodyAccJerkMag-	time_gravity_acceleration_mag_std	in	
	,			double
	,		mean of time attribute	
37 n	^		of body acceleration	
	mean()	time_body_acceleration_jerkmag_mean	jerk magnitude in	double
			standard deviation of	
			time attribute of body	
			acceleration jerk	
38 tl	tBodyAccJerkMag-std()	time_body_acceleration_jerkmag_std	magnitude in	double
			mean of time attribute	
			of body acceleration	
39 ti	tBodyGyroMag-mean()	time_body_gyromag_mean	jerk magnitude in	double
33 (1			standard deviation of	300010
			time attribute of body	
			acceleration jerk	
40 ti	tBodyGyroMag-std()	time_body_gyromag_std	magnitude in	double
70 (1	tbody Gyrolviag Sta()	time_body_gyromag_sta		dodbic
	tD a di Ci wa Lawli Maa		mean of time attribute	
	tBodyGyroJerkMag-	Marie Inc. Inc. Co. Co. Co. Co. Co. Co. Co. Co. Co. Co	of body acceleration	
41 m	mean()	time_body_gyrojerkmag_mean	jerk magnitude in	double
			standard deviation of	
			time attribute of body	
43	+D = -l. · C · · · · = l = · · l · N · l = · · · + · · l · \	Ation to be added to the control of	acceleration jerk	al a cola la
42 tl	tBodyGyroJerkMag-std()	time_body_gyrojerkmag_std	magnitude in	double
			mean of frequency	
42 ((D. J. A., /) V	for hele week attended	attribute of body	
43 f	fBodyAcc-mean()-X	freq_body_acceleration_mean_x	acceleration in x	double
			mean of frequency	
	for all Asset (Co.)	for his and the	attribute of body	
44 f	fBodyAcc-mean()-Y	freq_body_acceleration_mean_y	acceleration in y	double
			mean of frequency	
4.5	(D A	for his contract	attribute of body	
45 f	fBodyAcc-mean()-Z	freq_body_acceleration_mean_z	acceleration in z	double
			standard deviation of	
			frequency attribute of	
46 ft	fBodyAcc-std()-X	freq_body_acceleration_std_x	body acceleration in x	double
			standard deviation of	
			frequency attribute of	
47 f	fBodyAcc-std()-Y	freq_body_acceleration_std_y	body acceleration in y	double
			standard deviation of	
			frequency attribute of	
48 fi	fBodyAcc-std()-Z	freq_body_acceleration_std_z	body acceleration in z	double

			mean of frequency	
			attribute of body	
49	fBodyAccJerk-mean()-X	freq_body_acceleration_jerk_mean_x	acceleration jerk in x	double
			mean of frequency	
50	fBodyAccJerk-mean()-Y	freq_body_acceleration_jerk_mean_y	attribute of body acceleration jerk in y	double
30	ibodyAccjerk-iilean()-1		mean of frequency	double
			attribute of body	
51	fBodyAccJerk-mean()-Z	freq_body_acceleration_jerk_mean_z	acceleration jerk in z	double
			standard deviation of	
			frequency attribute of	
	(Deal Acated at I/) V	for had a substituted at	body acceleration jerk in	1. 1.1.
52	fBodyAccJerk-std()-X	freq_body_acceleration_jerk_std_x	standard deviation of	double
			frequency attribute of	
			body acceleration jerk in	
53	fBodyAccJerk-std()-Y	freq_body_acceleration_jerk_std_y	y	double
			standard deviation of	
			frequency attribute of	
	5-1-1-1-10-		body acceleration jerk in	
54	fBodyAccJerk-std()-Z	freq_body_acceleration_jerk_std_z	Z	double
			mean of frequency attribute of body gyro in	
55	fBodyGyro-mean()-X	freq_body_gyro_mean_x	X	double
	is a figure in early in		mean of frequency	0.00.0.0
			attribute of body gyro in	
56	fBodyGyro-mean()-Y	freq_body_gyro_mean_y	У	double
			mean of frequency	
E 7	fRadyCyra maan() 7	frog hody gyro moon 7	attribute of body gyro in	double
57	fBodyGyro-mean()-Z	freq_body_gyro_mean_z	Z	double
			standard deviation of frequency attribute of	
58	fBodyGyro-std()-X	freq_body_gyro_std_x	body gyro in x	double
		1	standard deviation of	5.535.6
			frequency attribute of	
59	fBodyGyro-std()-Y	freq_body_gyro_std_y	body gyro in y	double
			standard deviation of	
			frequency attribute of	
60	fBodyGyro-std()-Z	freq_body_gyro_std_z	body gyro in z	double
			mean of frequency	
			attribute of body	
61	fBodyAccMag-mean()	freq_body_acceleration_mag_mean	acceleration magnitude in	double
01	1500yAcciviag-IIICali()		standard deviation of	aoubie
			frequency attribute of	
			body acceleration	
62	fBodyAccMag-std()	freq_body_acceleration_mag_std	magnitude in	double

	fBodyBodyAccJerkMag-		mean of frequency attribute of body acceleration jerk	
63	mean()	freq_body_acceleration_jerkmag_mean	magnitude in	double
			standard deviation of	
			frequency attribute of	
	fBodyBodyAccJerkMag-		body acceleration jerk	
64	std()	freq_body_acceleration_jerkmag_std	magnitude in	double
			mean of frequency	
	fBodyBodyGyroMag-		attribute of body gyro	
65	mean()	freq_body_gyromag_mean	magnitude in	double
			standard deviation of	
	fBodyBodyGyroMag-		frequency attribute of	
66	std()	freq_body_gyromag_std	body gyro magnitude in	double
			mean of frequency	
	fBodyBodyGyroJerkMag-		attribute of body gyro	
67	mean()	freq_body_gyrojerkmag_mean	jerk magnitude in	double
			standard deviation of	
	fBodyBodyGyroJerkMag-		frequency attribute of	
68	std()	freq_body_gyrojerkmag_std	body acceleration in	double