# Codebook

## Variable list and descriptions

'-XYZ' is used to denote 3-axial signals in the X, Y and Z directions.

|  |  |
| --- | --- |
| Variable pattern | Description |
| subject | ID the subject who performed the activity for each window sample. Its range is from 1 to 30. |
| activity | Activity name |
| Time | Feature: Time domain signal |
| Frequency | Feature: Frequency domain signal |
| Accelerometer | Feature: Measuring instrument |
| Gyroscope | Feature: Measuring instrument |
| Body | Feature: Acceleration signal |
| Gravity | Feature: Acceleration signal |
| mean | Feature: Variable |
| StandardDeviation | Feature: Variable |
| Jerk | Feature: Jerk signal |
| Magnitude | Feature: Magnitude of the signals calculated using the Euclidean norm |

## Dataset structure

source("run\_analysis.R")

##   
## Attaching package: 'dplyr'

## The following objects are masked from 'package:data.table':  
##   
## between, last

## The following objects are masked from 'package:stats':  
##   
## filter, lag

## The following objects are masked from 'package:base':  
##   
## intersect, setdiff, setequal, union

str(tidy)

## 'data.frame': 180 obs. of 81 variables:  
## $ activity : chr "LAYING" "SITTING" "STANDING" "WALKING" ...  
## $ subject : int 1 1 1 1 1 1 2 2 2 2 ...  
## $ Time\_BodyAccelerometer\_Mean\_X : num 0.222 0.261 0.279 0.277 0.289 ...  
## $ Time\_BodyAccelerometer\_Mean\_Y : num -0.04051 -0.00131 -0.01614 -0.01738 -0.00992 ...  
## $ Time\_BodyAccelerometer\_Mean\_Z : num -0.113 -0.105 -0.111 -0.111 -0.108 ...  
## $ Time\_BodyAccelerometer\_StandardDeviation\_X : num -0.928 -0.977 -0.996 -0.284 0.03 ...  
## $ Time\_BodyAccelerometer\_StandardDeviation\_Y : num -0.8368 -0.9226 -0.9732 0.1145 -0.0319 ...  
## $ Time\_BodyAccelerometer\_StandardDeviation\_Z : num -0.826 -0.94 -0.98 -0.26 -0.23 ...  
## $ Time\_GravityAccelerometer\_Mean\_X : num -0.249 0.832 0.943 0.935 0.932 ...  
## $ Time\_GravityAccelerometer\_Mean\_Y : num 0.706 0.204 -0.273 -0.282 -0.267 ...  
## $ Time\_GravityAccelerometer\_Mean\_Z : num 0.4458 0.332 0.0135 -0.0681 -0.0621 ...  
## $ Time\_GravityAccelerometer\_StandardDeviation\_X : num -0.897 -0.968 -0.994 -0.977 -0.951 ...  
## $ Time\_GravityAccelerometer\_StandardDeviation\_Y : num -0.908 -0.936 -0.981 -0.971 -0.937 ...  
## $ Time\_GravityAccelerometer\_StandardDeviation\_Z : num -0.852 -0.949 -0.976 -0.948 -0.896 ...  
## $ Time\_BodyAccelerometerJerk\_Mean\_X : num 0.0811 0.0775 0.0754 0.074 0.0542 ...  
## $ Time\_BodyAccelerometerJerk\_Mean\_Y : num 0.003838 -0.000619 0.007976 0.028272 0.02965 ...  
## $ Time\_BodyAccelerometerJerk\_Mean\_Z : num 0.01083 -0.00337 -0.00369 -0.00417 -0.01097 ...  
## $ Time\_BodyAccelerometerJerk\_StandardDeviation\_X : num -0.9585 -0.9864 -0.9946 -0.1136 -0.0123 ...  
## $ Time\_BodyAccelerometerJerk\_StandardDeviation\_Y : num -0.924 -0.981 -0.986 0.067 -0.102 ...  
## $ Time\_BodyAccelerometerJerk\_StandardDeviation\_Z : num -0.955 -0.988 -0.992 -0.503 -0.346 ...  
## $ Time\_BodyGyroscope\_Mean\_X : num -0.0166 -0.0454 -0.024 -0.0418 -0.0351 ...  
## $ Time\_BodyGyroscope\_Mean\_Y : num -0.0645 -0.0919 -0.0594 -0.0695 -0.0909 ...  
## $ Time\_BodyGyroscope\_Mean\_Z : num 0.1487 0.0629 0.0748 0.0849 0.0901 ...  
## $ Time\_BodyGyroscope\_StandardDeviation\_X : num -0.874 -0.977 -0.987 -0.474 -0.458 ...  
## $ Time\_BodyGyroscope\_StandardDeviation\_Y : num -0.9511 -0.9665 -0.9877 -0.0546 -0.1263 ...  
## $ Time\_BodyGyroscope\_StandardDeviation\_Z : num -0.908 -0.941 -0.981 -0.344 -0.125 ...  
## $ Time\_BodyGyroscopeJerk\_Mean\_X : num -0.1073 -0.0937 -0.0996 -0.09 -0.074 ...  
## $ Time\_BodyGyroscopeJerk\_Mean\_Y : num -0.0415 -0.0402 -0.0441 -0.0398 -0.044 ...  
## $ Time\_BodyGyroscopeJerk\_Mean\_Z : num -0.0741 -0.0467 -0.049 -0.0461 -0.027 ...  
## $ Time\_BodyGyroscopeJerk\_StandardDeviation\_X : num -0.919 -0.992 -0.993 -0.207 -0.487 ...  
## $ Time\_BodyGyroscopeJerk\_StandardDeviation\_Y : num -0.968 -0.99 -0.995 -0.304 -0.239 ...  
## $ Time\_BodyGyroscopeJerk\_StandardDeviation\_Z : num -0.958 -0.988 -0.992 -0.404 -0.269 ...  
## $ Time\_BodyAccelerometerMagnitude\_mean : num -0.8419 -0.9485 -0.9843 -0.137 0.0272 ...  
## $ Time\_BodyAccelerometerMagnitude\_std : num -0.7951 -0.9271 -0.9819 -0.2197 0.0199 ...  
## $ Time\_GravityAccelerometerMagnitude\_mean : num -0.8419 -0.9485 -0.9843 -0.137 0.0272 ...  
## $ Time\_GravityAccelerometerMagnitude\_std : num -0.7951 -0.9271 -0.9819 -0.2197 0.0199 ...  
## $ Time\_BodyAccelerometerJerkMagnitude\_mean : num -0.9544 -0.9874 -0.9924 -0.1414 -0.0894 ...  
## $ Time\_BodyAccelerometerJerkMagnitude\_std : num -0.9282 -0.9841 -0.9931 -0.0745 -0.0258 ...  
## $ Time\_BodyGyroscopeMagnitude\_mean : num -0.8748 -0.9309 -0.9765 -0.161 -0.0757 ...  
## $ Time\_BodyGyroscopeMagnitude\_std : num -0.819 -0.935 -0.979 -0.187 -0.226 ...  
## $ Time\_BodyGyroscopeJerkMagnitude\_mean : num -0.963 -0.992 -0.995 -0.299 -0.295 ...  
## $ Time\_BodyGyroscopeJerkMagnitude\_std : num -0.936 -0.988 -0.995 -0.325 -0.307 ...  
## $ Frequency\_BodyAccelerometer\_Mean\_X : num -0.9391 -0.9796 -0.9952 -0.2028 0.0382 ...  
## $ Frequency\_BodyAccelerometer\_Mean\_Y : num -0.86707 -0.94408 -0.97707 0.08971 0.00155 ...  
## $ Frequency\_BodyAccelerometer\_Mean\_Z : num -0.883 -0.959 -0.985 -0.332 -0.226 ...  
## $ Frequency\_BodyAccelerometer\_StandardDeviation\_X : num -0.9244 -0.9764 -0.996 -0.3191 0.0243 ...  
## $ Frequency\_BodyAccelerometer\_StandardDeviation\_Y : num -0.834 -0.917 -0.972 0.056 -0.113 ...  
## $ Frequency\_BodyAccelerometer\_StandardDeviation\_Z : num -0.813 -0.934 -0.978 -0.28 -0.298 ...  
## $ Frequency\_BodyAccelerometer\_meanFreq\_X : num -0.1588 -0.0495 0.0865 -0.2075 -0.3074 ...  
## $ Frequency\_BodyAccelerometer\_meanFreq\_Y : num 0.0975 0.0759 0.1175 0.1131 0.0632 ...  
## $ Frequency\_BodyAccelerometer\_meanFreq\_Z : num 0.0894 0.2388 0.2449 0.0497 0.2943 ...  
## $ Frequency\_BodyAccelerometerJerk\_Mean\_X : num -0.9571 -0.9866 -0.9946 -0.1705 -0.0277 ...  
## $ Frequency\_BodyAccelerometerJerk\_Mean\_Y : num -0.9225 -0.9816 -0.9854 -0.0352 -0.1287 ...  
## $ Frequency\_BodyAccelerometerJerk\_Mean\_Z : num -0.948 -0.986 -0.991 -0.469 -0.288 ...  
## $ Frequency\_BodyAccelerometerJerk\_StandardDeviation\_X : num -0.9642 -0.9875 -0.9951 -0.1336 -0.0863 ...  
## $ Frequency\_BodyAccelerometerJerk\_StandardDeviation\_Y : num -0.932 -0.983 -0.987 0.107 -0.135 ...  
## $ Frequency\_BodyAccelerometerJerk\_StandardDeviation\_Z : num -0.961 -0.988 -0.992 -0.535 -0.402 ...  
## $ Frequency\_BodyAccelerometerJerk\_meanFreq\_X : num 0.132 0.257 0.314 -0.209 -0.253 ...  
## $ Frequency\_BodyAccelerometerJerk\_meanFreq\_Y : num 0.0245 0.0475 0.0392 -0.3862 -0.3376 ...  
## $ Frequency\_BodyAccelerometerJerk\_meanFreq\_Z : num 0.02439 0.09239 0.13858 -0.18553 0.00937 ...  
## $ Frequency\_BodyGyroscope\_Mean\_X : num -0.85 -0.976 -0.986 -0.339 -0.352 ...  
## $ Frequency\_BodyGyroscope\_Mean\_Y : num -0.9522 -0.9758 -0.989 -0.1031 -0.0557 ...  
## $ Frequency\_BodyGyroscope\_Mean\_Z : num -0.9093 -0.9513 -0.9808 -0.2559 -0.0319 ...  
## $ Frequency\_BodyGyroscope\_StandardDeviation\_X : num -0.882 -0.978 -0.987 -0.517 -0.495 ...  
## $ Frequency\_BodyGyroscope\_StandardDeviation\_Y : num -0.9512 -0.9623 -0.9871 -0.0335 -0.1814 ...  
## $ Frequency\_BodyGyroscope\_StandardDeviation\_Z : num -0.917 -0.944 -0.982 -0.437 -0.238 ...  
## $ Frequency\_BodyGyroscope\_meanFreq\_X : num -0.00355 0.18915 -0.12029 0.01478 -0.10045 ...  
## $ Frequency\_BodyGyroscope\_meanFreq\_Y : num -0.0915 0.0631 -0.0447 -0.0658 0.0826 ...  
## $ Frequency\_BodyGyroscope\_meanFreq\_Z : num 0.010458 -0.029784 0.100608 0.000773 -0.075676 ...  
## $ Frequency\_BodyAccelerometerMagnitude\_mean : num -0.8618 -0.9478 -0.9854 -0.1286 0.0966 ...  
## $ Frequency\_BodyAccelerometerMagnitude\_std : num -0.798 -0.928 -0.982 -0.398 -0.187 ...  
## $ Frequency\_BodyAccelerometerMagnitude\_meanFreq : num 0.0864 0.2367 0.2846 0.1906 0.1192 ...  
## $ Frequency\_BodyBodyAccelerometerJerkMagnitude\_mean : num -0.9333 -0.9853 -0.9925 -0.0571 0.0262 ...  
## $ Frequency\_BodyBodyAccelerometerJerkMagnitude\_std : num -0.922 -0.982 -0.993 -0.103 -0.104 ...  
## $ Frequency\_BodyBodyAccelerometerJerkMagnitude\_meanFreq: num 0.2664 0.3519 0.4222 0.0938 0.0765 ...  
## $ Frequency\_BodyBodyGyroscopeMagnitude\_mean : num -0.862 -0.958 -0.985 -0.199 -0.186 ...  
## $ Frequency\_BodyBodyGyroscopeMagnitude\_std : num -0.824 -0.932 -0.978 -0.321 -0.398 ...  
## $ Frequency\_BodyBodyGyroscopeMagnitude\_meanFreq : num -0.139775 -0.000262 -0.028606 0.268844 0.349614 ...  
## $ Frequency\_BodyBodyGyroscopeJerkMagnitude\_mean : num -0.942 -0.99 -0.995 -0.319 -0.282 ...  
## $ Frequency\_BodyBodyGyroscopeJerkMagnitude\_std : num -0.933 -0.987 -0.995 -0.382 -0.392 ...  
## $ Frequency\_BodyBodyGyroscopeJerkMagnitude\_meanFreq : num 0.176 0.185 0.334 0.191 0.19 ...