Codebook for run\_analysis.R

1. Introduction

This file code is created to perform the following tasks on the [data](https://d396qusza40orc.cloudfront.net/getdata%2Fprojectfiles%2FUCI%20HAR%20Dataset.zip)

* Merges the training and the test sets to create one data set.
* Extracts only the measurements on the mean and standard deviation for each measurement.
* Uses descriptive activity names to name the activities in the data set
* Appropriately labels the data set with descriptive variable names.
* From the data set in step 4, creates a second, independent tidy data set with the average of each variable for each activity and each subject.

1. Data labels

* training\_x: the table result of reading X\_train.txt;
* training\_y: the table result of reading Y\_train.txt;
* training\_subject: the table result of reading subject\_train.txt;
* test\_x: the table result of reading X\_test.txt;
* test\_y: the table result of reading Y\_test.txt;
* test\_subject: the table result of reading subject\_test.txt;
* activities: the table result of reading activity\_labels.txt;
* features: the table result of reading features.txt;
* subjects: the table that merged training\_subject and test\_subject
* merged: the table that merged all the tables above except activities and features
* TidyData: the subset of merged that contains “mean” or “std”
* FinalData: the find data set

1. Variable names

* "Acc"=="Accelerometer"
* "Gyro"== "Gyroscope"
* "BodyBody"== "Body"
* "Mag"== "Magnitude"
* "^t"=="Time"
* "^f"== "Frequency"
* "tBody"== "TimeBody"
* "-mean()"== "Mean"
* "-std()"== "STD"
* "-freq()"== "Frequency"
* "angle"== "Angle"
* "gravity"== "Gravity"