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> source("run_analysis.R")
> run_analysis()
2016-08-28 21:42:46 : Loading raw data files...
./UCI HAR Dataset/features.txt --- GOOD
./UCI HAR Dataset/activity_labels.txt --- GOOD
./UCI HAR Dataset/test/subject_test.txt --- GOOD
./UCI HAR Dataset/test/X_test.txt --- GOOD
./UCI HAR Dataset/test/y_test.txt --- GOOD
./UCI HAR Dataset/train/subject_train.txt --- GOOD
./UCI HAR Dataset/train/X_train.txt --- GOOD
./UCI HAR Dataset/train/y_train.txt --- GOOD
2016-08-28 21:42:46 : Loading ---: ./UCI HAR Dataset/features.txt
2016-08-28 21:42:46 : Loading ---: ./UCI HAR Dataset/activity_labels.txt
2016-08-28 21:42:46 : Loading ---: ./UCI HAR Dataset/test/subject_test.txt
2016-08-28 21:42:46 : Loading ---: ./UCI HAR Dataset/test/X_test.txt
2016-08-28 21:42:49 : Loading ---: ./UCI HAR Dataset/test/y_test.txt
2016-08-28 21:42:49 : Loading ---: ./UCI HAR Dataset/train/subject_train.txt
2016-08-28 21:42:49 : Loading ---: ./UCI HAR Dataset/train/X_train.txt
2016-08-28 21:43:00 : Loading ---: ./UCI HAR Dataset/train/y_train.txt
2016-08-28 21:43:00 : Validating raw data files...
[1] "Features - file dimensions validated - 561 rows by 2 columns"
[1] "Activity Labels - file dimensions validated - 6 rows by 2 columns"
[1] Test dataset has 2947 rows
[1] "Test Subject - file dimensions validated - 1 column"
[1] "Test Activity Label (y file) - file dimensions validated - 1 column"
[1] "Test Measures (X file) - file dimensions validated - 561 columns"
[1] Train dataset has 7352 rows
[1] "Train Subject - file dimensions validated - 1 column"
[1] "Train Activity Label (y file) - file dimensions validated - 1 column"
[1] "Train Measures (X file) - file dimensions validated - 561 columns"
2016-08-28 21:43:00 : Data content review and validation prior to merge...
[1] "Test Activity (y file) contents validate against Activity Labels - GOOD"
[1] "Train Activity (y file) contents validate against Activity Labels - GOOD"
raw_test_subject
  2   4   9  10  12  13  18  20  24
302 317 288 294 320 327 364 354 381
raw_train_subject
  1   3   5   6   7   8  11  14  15  16  17  19  21  22  23  25  26  27  28  29  30
347 341 302 325 308 281 316 323 328 366 368 360 408 321 372 409 392 376 382 344 383
[1] "Test Measures File (X_test.txt) does NOT have NAs present"
[1] "Train Measures File (X_train.txt) does NOT have NAs present"
[1] "Test Measures File (X_test.txt) is confirmed all numeric"
[1] "Train Measures File (X_train.txt) is confirmed all numeric"
2016-08-28 21:43:00 : Merging the Test and Train datasets into a single dataset...
[1] "Combined raw Test dataset has 2947 rows and 563 columns."
[1] "Combined raw Train dataset has 7352 rows and 563 columns."
[1] "Test Dataset - 4X4 Upper Corner - Shows added columns"
  SubjectID ActivityCode tBodyAcc-mean()-X tBodyAcc-mean()-Y
1          2           5          0.25718         -0.023285
2          2           5          0.28603         -0.013163
3          2           5          0.27548         -0.026050
4          2           5          0.27030         -0.032614

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[1] "Train Dataset - 4X4 Upper Corner - Shows added columns"
  SubjectID ActivityCode tBodyAcc-mean()-X tBodyAcc-mean()-Y
1          1           5           0.28858          -0.020294
2          1           5           0.27842          -0.016411
3          1           5           0.27965          -0.019467
4          1           5           0.27917          -0.026201
[1] "Combined raw dataset has 10299 rows and 563 columns."
[1] "The train file was appended to the test file"
[1] "Here is the 4X4 upper corner of the new file, "
[1] "      it should match the upper corner of the Test file"
  SubjectID ActivityCode tBodyAcc-mean()-X tBodyAcc-mean()-Y
1          2           5           0.25718          -0.023285
2          2           5           0.28603          -0.013163
3          2           5           0.27548          -0.026050
4          2           5           0.27030          -0.032614
[1] "Here is the 4X4 left section of the new file, starting at row: 2948"
[1] "      it should match the upper corner of the Train file"
  SubjectID ActivityCode tBodyAcc-mean()-X tBodyAcc-mean()-Y
2948        1           5           0.28858          -0.020294
2949        1           5           0.27842          -0.016411
2950        1           5           0.27965          -0.019467
2951        1           5           0.27917          -0.026201
2016-08-28 21:43:01 : Extract the mean and standard deviation measures...
[1] "These are the columns being kept (Subject ID, Activity Code, and the measures)"
[1] "SubjectID"                "ActivityCode"                "tBodyAcc-mean()-X"            "tBod
yAcc-mean()-Y"
[5] "tBodyAcc-mean()-Z"        "tBodyAcc-std()-X"            "tBodyAcc-std()-Y"            "tBod
yAcc-std()-Z"
[9] "tGravityAcc-mean()-X"     "tGravityAcc-mean()-Y"        "tGravityAcc-mean()-Z"        "tGra
vityAcc-std()-X"
[13] "tGravityAcc-std()-Y"      "tGravityAcc-std()-Z"        "tBodyAccJerk-mean()-X"       "tBod
yAccJerk-mean()-Y"
[17] "tBodyAccJerk-mean()-Z"    "tBodyAccJerk-std()-X"        "tBodyAccJerk-std()-Y"        "tBod
yAccJerk-std()-Z"
[21] "tBodyGyro-mean()-X"       "tBodyGyro-mean()-Y"          "tBodyGyro-mean()-Z"          "tBod
yGyro-std()-X"
[25] "tBodyGyro-std()-Y"        "tBodyGyro-std()-Z"          "tBodyGyroJerk-mean()-X"      "tBod
yGyroJerk-mean()-Y"
[29] "tBodyGyroJerk-mean()-Z"   "tBodyGyroJerk-std()-X"       "tBodyGyroJerk-std()-Y"       "tBod
yGyroJerk-std()-Z"
[33] "tBodyAccMag-mean()"       "tBodyAccMag-std()"          "tGravityAccMag-mean()"       "tGra
vityAccMag-std()"
[37] "tBodyAccJerkMag-mean()"   "tBodyAccJerkMag-std()"       "tBodyGyroMag-mean()"         "tBod
yGyroMag-std()"
[41] "tBodyGyroJerkMag-mean()"  "tBodyGyroJerkMag-std()"      "fBodyAcc-mean()-X"           "fBod
yAcc-mean()-Y"
[45] "fBodyAcc-mean()-Z"        "fBodyAcc-std()-X"           "fBodyAcc-std()-Y"           "fBod
yAcc-std()-Z"
[49] "fBodyAcc-meanFreq()-X"    "fBodyAcc-meanFreq()-Y"       "fBodyAcc-meanFreq()-Z"       "fBod
yAccJerk-mean()-X"
[53] "fBodyAccJerk-mean()-Y"    "fBodyAccJerk-mean()-Z"       "fBodyAccJerk-std()-X"        "fBod
yAccJerk-std()-Y"

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[57] "fBodyAccJerk-std()-Z"          "fBodyAccJerk-meanFreq()-X"          "fBodyAccJerk-meanFreq()-Y"          "fBod
yAccJerk-meanFreq()-Z"
[61] "fBodyGyro-mean()-X"           "fBodyGyro-mean()-Y"                 "fBodyGyro-mean()-Z"                 "fBod
yGyro-std()-X"
[65] "fBodyGyro-std()-Y"           "fBodyGyro-std()-Z"                 "fBodyGyro-meanFreq()-X"            "fBod
yGyro-meanFreq()-Y"
[69] "fBodyGyro-meanFreq()-Z"       "fBodyAccMag-mean()"                 "fBodyAccMag-std()"                  "fBod
yAccMag-meanFreq()"
[73] "fBodyBodyAccJerkMag-mean()"   "fBodyBodyAccJerkMag-std()"          "fBodyBodyAccJerkMag-meanFreq()"     "fBod
yBodyGyroMag-mean()"
[77] "fBodyBodyGyroMag-std()"       "fBodyBodyGyroMag-meanFreq()"        "fBodyBodyGyroJerkMag-mean()"        "fBod
yBodyGyroJerkMag-std()"
[81] "fBodyBodyGyroJerkMag-meanFreq()" "angle(tBodyAccMean,gravity)"        "angle(tBodyAccJerkMean),gravityMean)" "angl
e(tBodyGyroMean,gravityMean)"
[85] "angle(tBodyGyroJerkMean,gravityMean)" "angle(X,gravityMean)"                "angle(Y,gravityMean)"                "angl
e(Z,gravityMean)"
[1] "Trimmed Dataset - 4X6 Upper Corner - Shows the data for visual review"
  SubjectID ActivityCode tBodyAcc-mean()-X tBodyAcc-mean()-Y tBodyAcc-mean()-Z tBodyAcc-std()-X
1          2           5         0.25718         -0.023285         -0.014654         -0.93840
2          2           5         0.28603         -0.013163         -0.119083         -0.97541
3          2           5         0.27548         -0.026050         -0.118152         -0.99382
4          2           5         0.27030         -0.032614         -0.117520         -0.99474
2016-08-28 21:43:01 : Enriching the dataset with the Activity Names that match to codes...
[1] "Tidy Dataset - 4X6 Upper Corner - Shows the data for visual review"
  SubjectID ActivityName tBodyAcc-mean()-X tBodyAcc-mean()-Y tBodyAcc-mean()-Z tBodyAcc-std()-X
1          2    STANDING         0.25718         -0.023285         -0.014654         -0.93840
2          2    STANDING         0.28603         -0.013163         -0.119083         -0.97541
3          2    STANDING         0.27548         -0.026050         -0.118152         -0.99382
4          2    STANDING         0.27030         -0.032614         -0.117520         -0.99474
[1] "There are multiple records per activity, per subject, as shown here."

  LAYING SITTING STANDING WALKING WALKING_DOWNSTAIRS WALKING_UPSTAIRS
1      50      47      53      95                  49                  53
2      48      46      54      59                  47                  48
3      62      52      61      58                  49                  59
4      54      50      56      60                  45                  52
5      52      44      56      56                  47                  47
6      57      55      57      57                  48                  51
7      52      48      53      57                  47                  51
8      54      46      54      48                  38                  41
9      50      50      45      52                  42                  49
10     58      54      44      53                  38                  47
11     57      53      47      59                  46                  54
12     60      51      61      50                  46                  52
13     62      49      57      57                  47                  55
14     51      54      60      59                  45                  54
15     72      59      53      54                  42                  48
16     70      69      78      51                  47                  51
17     71      64      78      61                  46                  48
18     65      57      73      56                  55                  58
19     83      73      73      52                  39                  40
20     68      66      73      51                  45                  51

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21      90      85      89      52      45      47
22      72      62      63      46      36      42
23      72      68      68      59      54      51
24      72      68      69      58      55      59
25      73      65      74      74      58      65
26      76      78      74      59      50      55
27      74      70      80      57      44      51
28      80      72      79      54      46      51
29      69      60      65      53      48      49
30      70      62      59      65      62      65
2016-08-28 21:43:01 : Writing the Tidy Base dataset as a CSV file...
[1] "Tidy Dataset (CSV) - 4X6 Upper Corner - Shows the data for visual review"
  SubjectID ActivityName tBodyAcc.mean...X tBodyAcc.mean...Y tBodyAcc.mean...Z tBodyAcc.std...X
1         2     STANDING      0.25718      -0.023285      -0.014654      -0.93840
2         2     STANDING      0.28603      -0.013163      -0.119083      -0.97541
3         2     STANDING      0.27548      -0.026050      -0.118152      -0.99382
4         2     STANDING      0.27030      -0.032614      -0.117520      -0.99474
[1] "Tidy CSV Dataset dimensions match the Tidy Data Frame dimenstions. -- GOOD"
2016-08-28 21:43:04 : Writing the Tidy dataset as a CSV file...
[1] "Tidy Mean Summary Dataset has 180 rows and 88 columns."
[1] "Tidy Mean Summary Dataset - 4X6 Upper Corner - Shows the data for visual review"
  ActivityName SubjectID tBodyAcc.mean...X tBodyAcc.mean...Y tBodyAcc.mean...Z tBodyAcc.std...X
1     LAYING         1      0.22160      -0.040514      -0.11320      -0.92806
2     LAYING         2      0.28137      -0.018159      -0.10725      -0.97406
3     LAYING         3      0.27552      -0.018956      -0.10130      -0.98278
4     LAYING         4      0.26356      -0.015003      -0.11069      -0.95419
2016-08-28 21:43:04 : Writing the Tidy Mean Summary dataset as a CSV file...
[1] "Tidy Mean Summary Dataset (CSV) - 4X6 Upper Corner - Shows the data for visual review"
  ActivityName SubjectID tBodyAcc.mean...X tBodyAcc.mean...Y tBodyAcc.mean...Z tBodyAcc.std...X
1     LAYING         1      0.22160      -0.040514      -0.11320      -0.92806
2     LAYING         2      0.28137      -0.018159      -0.10725      -0.97406
3     LAYING         3      0.27552      -0.018956      -0.10130      -0.98278
4     LAYING         4      0.26356      -0.015003      -0.11069      -0.95419
[1] "Tidy Mean Summary CSV Dataset dimensions match the data frame dimensions. -- GOOD"
2016-08-28 21:43:04 : QED - Script ended successfully.
>

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