*Cleaning Data* Course/Week 4 Project Code Book

The Analysis Process:

The run\_analysis.R script reads in the processed data:

1. Processed test (test) and training (tng) data sets are read in and merged into one data frame.
2. Data columns are provided names based on the “features.txt” file.
3. Columns that have either mean or standard deviation data are chosen from the data sets. Other measurement columns are excluded.
4. The activity identifiers are replaced with the activity labels based on the “activity\_labels.txt” file.
5. Invalid characters are removed from the column names.
6. Duplicate phrase “BodyBody” in a few column names are replaced with “Body”.
7. The data is subsequently grouped by subject and activity, and the mean is calculated for all measurement columns.
8. The summary dataset is written to the file, “run\_data\_summary.txt.”

NOTE: All sequential lines of code are commented in the body of the script “run\_analysis.R.”

The columns included in output files are:

1. subject\_id - The “id” of the experiment participant.
2. activity\_labels - The name of the activity that the measurements corresponds

All of the following fields represent the mean of recorded data points for the given subject and activity. Details of differing measures can be located in the  “features\_info.txt” file.

1. tBodyAcc\_mean\_X
2. tBodyAcc\_mean\_Y
3. tBodyAcc\_mean\_Z
4. tGravityAcc\_mean\_X
5. tGravityAcc\_mean\_Y
6. tGravityAcc\_mean\_Z
7. tBodyAccJerk\_mean\_X
8. tBodyAccJerk\_mean\_Y
9. tBodyAccJerk\_mean\_Z
10. tBodyGyro\_mean\_X
11. tBodyGyro\_mean\_Y
12. tBodyGyro\_mean\_Z
13. tBodyGyroJerk\_mean\_X
14. tBodyGyroJerk\_mean\_Y
15. tBodyGyroJerk\_mean\_Z
16. tBodyAccMag\_mean
17. tGravityAccMag\_mean
18. tBodyAccJerkMag\_mean
19. tBodyGyroMag\_mean
20. tBodyGyroJerkMag\_mean
21. fBodyAcc\_mean\_X
22. fBodyAcc\_mean\_Y
23. fBodyAcc\_mean\_Z
24. fBodyAccJerk\_mean\_X
25. fBodyAccJerk\_mean\_Y
26. fBodyAccJerk\_mean\_Z
27. fBodyGyro\_mean\_X
28. fBodyGyro\_mean\_Y
29. fBodyGyro\_mean\_Z
30. fBodyAccMag\_mean
31. fBodyAccJerkMag\_mean
32. fBodyGyroMag\_mean
33. fBodyGyroJerkMag\_mean
34. tBodyAcc\_std\_X
35. tBodyAcc\_std\_Y
36. tBodyAcc\_std\_Z
37. tGravityAcc\_std\_X
38. tGravityAcc\_std\_Y
39. tGravityAcc\_std\_Z
40. tBodyAccJerk\_std\_X
41. tBodyAccJerk\_std\_Y
42. tBodyAccJerk\_std\_Z
43. tBodyGyro\_std\_X
44. tBodyGyro\_std\_Y
45. tBodyGyro\_std\_Z
46. tBodyGyroJerk\_std\_X
47. tBodyGyroJerk\_std\_Y
48. tBodyGyroJerk\_std\_Z
49. tBodyAccMag\_std
50. tGravityAccMag\_std
51. tBodyAccJerkMag\_std
52. tBodyGyroMag\_std
53. tBodyGyroJerkMag\_std
54. fBodyAcc\_std\_X
55. fBodyAcc\_std\_Y
56. fBodyAcc\_std\_Z
57. fBodyAccJerk\_std\_X
58. fBodyAccJerk\_std\_Y
59. fBodyAccJerk\_std\_Z
60. fBodyGyro\_std\_X
61. fBodyGyro\_std\_Y
62. fBodyGyro\_std\_Z
63. fBodyAccMag\_std
64. fBodyAccJerkMag\_std
65. fBodyGyroMag\_std
66. fBodyGyroJerkMag\_std