run_analysis.R script usage

- `data5 <- read_data5(datadir=".")` reads training and test datasets from current(default) or user provided directory, merges the 2 datasets in a single one, computes and returns averages of each variable for each activity and each subject
- `write_data5(data5, filename)` writes data5 to filename in text format without row names
- `read_write_data5(filename,datadir=".")` reads and writes data5 by calling write_data5(read_data5(datadir),filenam

Output data format

Column	Variable name	Variable description
1	Subject	Subject ID (1-30)
2	Activity	Test performed(1=WALKING, 2=WALKING_UPSTAIRS,3=WALKING_DO
3	Dataset	Data set factor (test,train)
4-6	tBodyAccMean[X-Z]	Time domain Body Acceleration Mean in X,Y, Z directions
7-9	tGravityAccMean[X-Z]	Time domain Gravity Acceleration Mean in X,Y, Z directions
10-12	tBodyAccJerkMean[X-Z]	Time domain Body Acceleration Jerk Mean in X,Y, Z directions
13-15	tBodyGyroMean[X-Z]	Time domain Body Angular velocity Mean in X,Y, Z directions
16-18	tBodyGyroJerkMean[X-Z]	Time domain Body Angular velocity Jerk Mean in X,Y, Z directions
19	tBodyAccMagMean	Time domain Body Acceleration Magnitude Mean
20	tGravityAccMagMean	Time domain Body Gravity Acceleration Magnitude Mean
21	tBodyAccJerkMagMean	Time domain Body Acceleration Jerk Magnitude Mean
22	tBodyGyroMagMean	Time domain Body Angular velocity Magnitude Mean
23	tBodyGyroJerkMagMean	Time domain Body Angular velocity Jerk Magnitude Mean
24-26	fBodyAccMean[X-Z]	FFT domain Body Acceleration Mean in X,Y, and Z directions
27-29	fBodyAccJerkMean[X-Z]	FFT domain Body Acceleration Jerk Mean in X,Y, and Z directions
30-32	fBodyGyroMean[X-Z]	FFT domain Body Angular velocity Mean in X,Y, and Z directions
33	fBodyAccMagMean	FFT domain Body Acceleration Magnitude Mean
34	fBodyBodyAccJerkMagMean	FFT domain Body Acceleration Jerk Magnitude Mean
35	fBodyBodyGyroMagMean	FFT domain Body Angular velocity Magnitude Mean
36	fBodyBodyGyroJerkMagMean	FFT domain Body Angular velocity JerkMagnitude Mean
37-39	tBodyAccStd[X-Z]	Time domain Body Acceleration Stdev in X,Y,Z directions
40-42	tGravityAccStd[X-Z]	Time domain Gravity Acceleration Stdev in X,Y,Z directions
43-45	tBodyAccJerkStd[X-Z]	Time domain Body Acceleration Jerk Stdev in X,Y,Z directions
46-48	tBodyGyroStd[X-Z]	Time domain Body Angular velocity Stdev in X,Y,Z directions
49-51	tBodyGyroJerkStd[X-Z]	Time domain Body Angular velocity Jerk Stdev in X,Y,Z directions
52	tBodyAccMagStd	Time domain Body Acceleration Magnitude Stdev
53	tGravityAccMagStd	Time domain Body Gravity Acceleration Magnitude Stdev
54	tBodyAccJerkMagStd	Time domain Body Acceleration Jerk Magnitude Stdev
55	tBodyGyroMagStd	Time domain Body Angular velocity Magnitude Stdev
56	tBodyGyroJerkMagStd	Time domain Body Angular velocity Jerk Magnitude Stdev
57-59	fBodyAccStd[X-Z]	FFT domain Body Acceleration Stdev in X,Y, and Z directions
60-62	fBodyAccJerkStd[X-Z]	FFT domain Body Acceleration Jerk Stdev in X,Y, and Z directions
63-65	fBodyGyroStd[X-Z]	FFT domain Body Angular velocity Stdev in X,Y, and Z directions
66	fBodyAccMagStd	FFT domain Body Acceleration Magnitude Stdev
67	fBodyBodyAccJerkMagStd	FFT domain Body Acceleration Jerk Magnitude Stdev
68	fBodyBodyGyroMagStd	FFT domain Body Angular velocity Magnitude Stdev
69	fBodyBodyGyroJerkMagStd	FFT domain Body Angular velocity JerkMagnitude Stdev