Home Work4 due Nov 12.

1. You are given the zipped file (ling.zip) for HW4 on the Web. The file contains files for a 2 by 2 design with 2 replicates. It is of interest to compare T1 to N1 and M to F as well as the Interaction. Analyze the data using methods shown in class. Provide the top-table for 20 genes for each of the contrasts of interest. Provide the p values using FDR. Also provide the Venn diagram to show the genes in common. Provide the design matrix and the contrasts matrix.
2. Suppose we are interested in a Factorial design with 2 factors A and B, with A having 2 levels and B having 4 levels. Write out the design matrix as is written in R. We would like to compare the two levels of A, compare first level of A, first level of B, with the second level of A, first level of B (A1B1-A2B1),. We are interested in comparing the 3rd level of B with the mean of level 1, 2, and 4 of B. Write out the appropriate contrast matrix.
3. Write out the Design matrix for a 3 factor design, each factor at 2 levels with 2 reps for each factor level combination.