Agronomy 526 Homework

Due: 2/3/22

1. In an experiment to evaluate the effects of cover crops on subsequent grain yield, three small grains (oat, wheat, rye) grown alone or in binary mixtures with vetch and winter pea were compared. The nine treatments were:

1) Oat	4) Wheat	7) Rye
2) Oat + Vetch	5) Wheat + Vetch	8) Rye + Vetch
3) Oat + Pea	6) Wheat + Pea	9) Rye + Pea

   Corn yields (Mg/ha) the following growing season were:

	Replication			
Treatment	1	2	3	4
1	3.38	3.39	3.06	3.08
2	3.29	3.62	3.11	3.43
3	3.62	3.77	3.65	3.60
4	3.04	3.16	2.64	3.05
5	3.70	3.16	3.34	3.26
6	3.49	3.84	3.00	3.16
7	2.39	2.83	2.75	2.34
8	3.06	2.65	3.23	3.17
9	3.21	2.58	3.46	2.92

   a. Perform the analysis of variance.

   b. Calculate treatment means and standard deviations.

   c. Partition treatment sums of squares into a set of meaningful single-degree-of-freedom linear comparisons.

   d. Calculate an estimate for each comparison made in c.

   e. Interpret the results of your analyses.

   * turn in your SAS program as well as OUTPUT