4b. ANOVA Exercises

Q1

A consumer product evaluation group is interested in comparing the mean life in minutes of four types of batteries commonly used with children's toys. A random sample of each of the four battery types is selected and put on a continuous test where the time required for the energy output of the battery to fall below a predetermined acceptable level is measured. The test results are given below.

The evaluation group would like to make statements about the relative merits of the battery types as measured by average lifetime.

Battery 1	Battery 2	Battery 3	Battery 4
43	45	45	45
47	48	43	48
48	49	41	55
45	46	41	47
46	52	38	58
42	45	46	50
46	44	45	46
45	47	41	53
49		43	56
		41	

Q2

To compare four different methods of growing corn, a large number of plots were used where one of the methods of growing corn was randomly assigned to each plot of land. The number of bushels per acre was recorded for each plot of land with the following results. Test the null hypothesis H_0: $\mu_1 = \mu_2 = \mu_3 = \mu_4$ for the four methods of growing corn.

Method 1	Method 2	Method 3	Method 4
83	91	101	78
91	90	100	82
94	81	91	81
89	83	93	77
89	84	96	79
96	83	95	81
91	88	94	80
92	91		81
90	89		
	84		