AMS 394 Homework 10 SAS

Question 1:

Three brands of tennis shoes are tested to see how many months of playing would wear out the soles. Eight pairs of brands A, N and T are randomly assigned to a group of 24 volunteers. The table below shows the results of the study:

	Brand A	Brand N	Brand T
Where time, in months	8	4	1
	10	7	8
	9	5	10
	11	5	10
	10	6	11
	10	7	9
	8	6	9
	12	4	12

Are the brands equal in wear quality? Write a SAS program to solve this problem, using ANOVA. Include the statement to perform a Student-Newman-Keuls multiple comparison.

Question 2:

Two cholesterol-lowing medications (statins) and a placebo were given to each of 10 volunteers with total cholesterol; readings of 240 or higher. After 6 weeks, the flowing total cholesterol values were recorded:

Stain A:	220	190	180	185	210	170	178	200	177	189
Stain B:	160	168	178	200	172	155	159	167	185	199
Placebo:	240	220	246	244	198	238	277	255	190	188

(a) Run a one-way ANOVA followed by a Duncan's multiple range test.
(b) Create a contrast to compare Placebo against the mean of Stain A and Stain B.

Question 3:

Tennis balls are tested in a machine to show how many bounces they can withstand before they fail to bounce 30% of their dropping height. Two brands of balls (W and P) are compared. In addition, the effect of shelf life on these brands is tested. Half of the balls of each brand are 6 months old, the other

half, fresh. Using a two-way analysis of variance, what conclusions can you reach? The data are shown below:

		Brand W	Brand P
Age	New	67	75
		72	76
		74	80
		82	72
		81	73
	Old	46	63
		44	62
		45	66
		51	62
		43	60