Student ID: _____ Name: _____

Finalterm Exam Prep

June/15/2010 (Tue.)

1. **Distribution of points** : Analyzing the result of the exam.

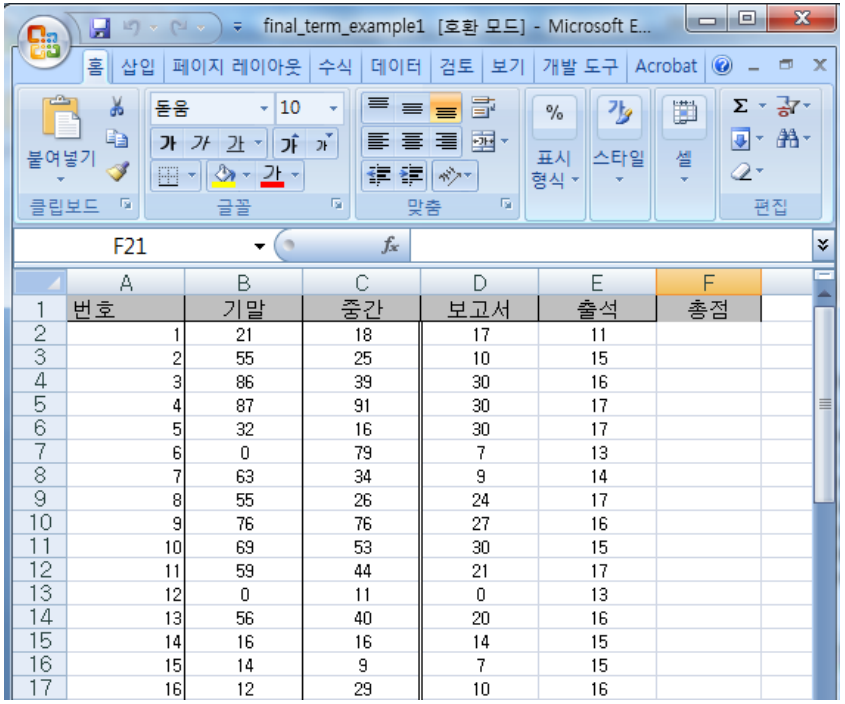
   (a) Calculate the total sum of examination and rank the students by the total sum. (Use the excel file named as "Final_term_example1.xls". The total sum can be calculated by 40% of mid-term, 40% final term, 15% reports, 5% attendance)

   (b) Evaluate the standard points of each student by calculating the standard deviation and the average points. Who are improved from the mid-term to the final-term? (Compare the standard points.)

   (c) By using r-program, plot the histograms of the final-term and the mid-term examinations. (Prepare the text file containing the series of the final-term and the mid-term. And import to the r-program by using the procedure for importing the ascii file.

   (d) By using r-program, calculate the mean values and the standard deviations of the final-term and the mid-term examinations.

   (Bonus) If you can do the above-mentioned process by using the wxMaxima, or Octave, you can do and compare with the results.



	A	B	C	D	E	F
1	번호	기말	중간	보고서	출석	총점
2	1	21	18	17	11	
3	2	55	25	10	15	
4	3	86	39	30	16	
5	4	87	91	30	17	
6	5	32	16	30	17	
7	6	0	79	7	13	
8	7	63	34	9	14	
9	8	55	26	24	17	
10	9	76	76	27	16	
11	10	69	53	30	15	
12	11	59	44	21	17	
13	12	0	11	0	13	
14	13	56	40	20	16	
15	14	16	16	14	15	
16	15	14	9	7	15	
17	16	12	29	10	16	

2. **Understanding the chi-square test** : The decision whether each group is normal or not.

   (a) Explain the purpose of the chi-square test and the procedures.

   (b) As following table, you can see the surveying data of the color preferences of the people. Fill in the expected numbers and calculate the chi-square values. With the table, calculate the significance level for the decision. For the 5% significance level, what is your conclusion? And compare with the result by using the excel.

Color	Yellow	Red	Green	Blue	White
Observed	35	50	30	10	25
Expected					

3. **Understanding the t-test** : The decision whether the two-groups are same or not. Bigger or same, Smaller or same.

   (a) Explain the purpose of the t-test and the procedures.

   (b) Determine whether the number of leaves in 2008 is bigger than the number of leaves in 2009 by using t-test in the significance level of 5%.

Tree	1	2	3	4	5	6	7	8
# of leaves (2008)	38	10	84	36	50	35	73	48
# of leaves (2009)	32	16	57	28	55	12	61	29