BS852 **HOMEWORK 2**
Due February 8th, 2016

Reading: Jewell, Chapter 9.

1. Use the package epiR in the R program, to repeat the analysis of association between coffee consumption and myocardial infarction with smoking a potential confounder (This is the Palmer study used in class 1 and class 2):

SMOKING	NEVER OR FORMER			CURRENT		
	Coffee 5+ cups	Coffee 0-4 cups		Coffee 5+ cups	Coffee 0-4 cups	
MI	30	207	237	117	216	333
No MI	33	327	360	25	114	139
Total	63	534	597	142	330	472

Specifically:

a. Test whether there is interaction between smoking and coffee use using both Breslow day test and the Woolf's method;
b. Show whether there is confounding.
c. Produce the Mantel-Haenszel chi-square test statistic to test whether there is an association between coffee consumption and MI using the continuity correction and without using the continuity corrections.
d. Write down the conclusions of your study.

You should include in your report the R script, and the R output, and your analysis should reproduce the results shown in class 1 and class 2.

2. **For this question, you can use either SAS or R and adjust the script in class**: Using the data in file **framdat2**, modify the sample program in your class notes handout to obtain the following results for women (sex = 2):
    a. a crude odds ratio,
    b. stratum-specific odds ratios,
    c. a summary odds ratio adjusting for age,
    d. a Mantel-Haenszel chi-square test statistic testing the age-adjusted association between gli4 and CHD, and
    e. a 95% confidence interval for the age-adjusted association.

From these results, what are your conclusions regarding confounding, interaction, and the relationship between glucose intolerance measured at exam 4 and development of coronary heart disease over 22 years of follow-up among women? Justify your statements with the results from the computer run.

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