R-Homework2 (Due: 2012.10.01)

1. Verify the results of the example (suicide and unemployment) discussed in the class (4 models at page 56 in the slides).

2. (# iv at page 20 in the lecture note: Getting Started With R)
   According to the example 6, you may try to change sigma and observe the power when sample size increases. (T = 50, 100, 200, 300, 500)

   i. Let $\Delta = 1$ and $\sigma = (0.5, 1, 1.5, 2, 3, 4, 5, 6, 7, 10)$. For each σ, you can evaluate how power changes with different sample size. Draw a power curve like example 6 and explain the result you observe.

   ii. Please try to change the variance of x_2. Dose this change affect test performances and in what direction? Draw a power curve like example 6 and explain the result you observe.