Homework 10. Due Wednesday November 16th.

1.Consider the MA(2) model

$$x_t \; = \; u_t + b_1 \, u_{t-1} + b_2 u_{t-2} \, , \quad (*)$$

that is the example in the GMM2 note.

Calculate the expected values Ex_t, Ex_t^2, $Ex_t x_{t-1}$, $Ex_t x_{t-2}$, $Ex_t x_{t-3}$.

2. Estimate the parameters by GMM, using the moments that corresponds to these expected values. (This does not involve a lot of modifications to the GMM program that you used in Homework 9.)

2. Estimate the parameters by Simulated GMM, using the same moments. (You should add a subroutine that does the simulations.) Try a couple of different values of N (the number of simulations), like 100, 1000 (or more, larger, values if you computer doesn't run too slowly). Compare the estimates to the ones obtained in part 2.