Numerical Methods Bootcamp

Thursday Assignment
The Aiyagari Model

For this problem set, you are asked to solve the Aiyagari (1994) model of incomplete markets. You are provided with an incomplete version of the program and should complete the following steps

(i) You will need to solve the households' problem as indicated in the script. I encourage you to use the method of endogenous gridpoints as it is both faster and easier to program than any other method for this particular problem.

(ii) Once you have solved the households' problem use your policy functions to construct a transition matrix for the economy. I would encourage you to use the "lottery" method as explained yesterday.

(iii) Find the stationary distribution by finding the eigenvector associated with a unit eigenvalue normalised to sum to zero.

(iv) Use a bisection method together with the above steps to find the equilibrium interest rate/capital stock.

(v) Plot your consumption policy functions and plot the equilibrium invariant distribution.