Macroeconomic Theory: Assignment 1

Exercise 1. (20%) Consider the Solow growth model we discussed in class. Let the production be $f(k) = Ak^{\alpha}$, and $A = 1$, $\alpha = 0.3$, $\delta = 0.5$, $s = 0.5$. Suppose that the economy was at the steady state for $t = -5, -4, -3, -2, -1$. At $t = 0$, the TPF (A) increases to 1.5 permanently. Using programming software to plot the exact dynamic path of capital, output, consumption, and investment from the old steady state to the new steady state (for $t = -5, ..., 0, 1, 2, \ldots, 20$)

Exercise 2. (20%) Now consider that at $t = 0$, the saving rate (s) decreases to 0.3 permanently (but the productivity remains unchanged: $A = 1$). Using programming software to plot the exact Plot the dynamic path of capital, output, consumption, and investment from the old steady state to the new steady state (for $t = -5, ..., 0, 1, 2, \ldots, 20$)