1. Consider a standard short-run macroeconomic model with money demand given by
\[ \frac{M}{P} = L(i, Y) \]. The inflation rate is equal to zero, and government expenditures rise.

a) Suppose the Fed adjusts the money supply to keep the interest rate constant. How does the money supply change? How do investment and consumption change?

b) Suppose the Fed adjusts the money supply to keep output constant. How does the money supply change? How do investment and consumption change?

c) Suppose the Fed keeps the money supply constant. How does the real interest rate change? How do investment and consumption change?

2. Explain how each of the following affects the AD and AS curves (or AD and IA) curves:
   a) Households become more optimistic about their future incomes.
   b) The demand for money increases (that is, people desire more real balances at a given level of i and Y than before).
   c) Investment demand becomes less sensitive to changes in the interest rate.
   d) Oil prices increase and consumer confidence falls at the same time.

3. Use the AD and IA diagram to describe how output, inflation, consumption and investment respond to a fiscal expansion when output equals potential output initially. Assume the Fed chooses the real interest rate target, \( r = r_n \).

4. a) In question 3, assume the Fed follows the monetary policy rule given by \( r = r_n + a\pi \) and explain how the path for inflation, the real interest rate and output differs from the monetary policy you used in question 3.

b) Redo part a for the monetary rule \( r = r_n + a\pi + b(Y - Y_n) \). How does this affect the adjustment back to the medium run?

5. How does a reduction in the natural rate of unemployment affect the AD and IA diagram? Does this affect short-run output, medium-run output, or both?