Problem Set #3
14.02

1.) True, False or Uncertain. Explain.
   a. If investment does not depend on the interest rate, the IS curve is vertical.
   b. Fiscal policy cannot affect the level of GDP if money demand does not depend on the interest rate.
   c. If money demand does not depend on income, the LM curve is horizontal.

2.) Evaluate how the following events would alter the demand for money.
   a. The introduction of an Electronic Cash Card to which you transfer money electronically from your checking account. This card is accepted everywhere that cash is. This card requires a password to use.
   b. An increase in the interest rate paid on 1-month Certificates of Deposits (CDs).
   c. A decrease on the amount of interest earned by checking accounts.

3.) A bond you buy today for $88 will give you $99 in 1 year:
   a. What is the interest rate on the bond?
   b. Suddenly the Congress mandates that checking deposits, previously earning no interest, will now receive 3% annual interest. What do you expect will happen to money demand in response to this legislation? Keeping wealth constant, what will happen to the price of bonds? Why?

4.) According to the ISLM model, what happens to the interest rate, income, consumption and investment when:
   a. the central bank increases the money supply?
   b. the government spends more money on defense?
   c. the government increases welfare payments?
   d. the government increases its own expenditures and taxes by the same amount?

5.) Consider the following economy.
   a. The consumption function is given by C=200+0.75(Y-T). The investment function is given by I=200-2500i. Government spending and taxes are both 100. Write down the IS equation.
b. The money demand function is \( (M/P) = Y - 10000i \). The money supply is 1,000 and the price level \( P \) is 2. Find the LM curve.

c. Find the equilibrium interest rate and level of income \( Y \).

d. Suppose that \( G \) is raised from 100 to 150. What is the new equilibrium interest rate and level of output?

e. Suppose instead that the money supply is raised from 1,000 to 1,200. What is the new equilibrium interest rate and level of output?

f. With the initial values for monetary and fiscal policy, suppose that the price level rises to 4. What is the new equilibrium interest rate and level of output?

6.) Suppose that the government wants to raise investment but keep output constant.

a. Using your own illustration of the ISLM model, explain graphically and in words what mix of monetary and fiscal policy will achieve this goal.

b. In the early 1980s, the US government cut taxes and ran a budget deficit while the Fed pursued a tight monetary policy. What impacts should this policy mix have?

7.) a. The Fed is following a policy of keeping the interest rate constant. Whenever, for whatever reason, the interest rate differs from the Fed’s target rate, the Fed conducts some policy to bring the interest rate back to the target. Will the Fed buy or sell bonds after seeing a rise in consumer confidence? Draw the effects of the rise in confidence and the Fed’s response in the ISLM model.

b. Instead, the Fed is following a policy of keeping output constant. Will the Fed buy or sell bonds after seeing a rise in consumer confidence? Draw the effects of the rise in confidence and the Fed’s response in the ISLM model. What will happen to the equilibrium level of output and the interest rate as a result of the Fed policy? (Compare the post-Fed policy to the pre-confidence equilibrium). What happens to the composition of GDP? That is, how are \( C, I, \) and \( G \) impacted by these events?