   a. From Table A of this document, report the following labor market indicators from the household survey (using seasonally adjusted data) for January 2006: i) the working age population (i.e. the non-institutionalized civilian population; ii) the labor force; iii) the unemployment rate; and the iv) the labor force participation rate. What was the annual growth rate of employment from December 2005 to January 2006?
   b. Suppose that economists estimate the rate of frictional unemployment to be 2.6% and the rate of structural unemployment to be 2.1% in January 2006. What is the natural rate of unemployment and cyclical unemployment rate in January 2006?

2. Suppose you run a widget company. The going wage for a worker is $40 per day, and the price of widgets is $0.50 per widget. Given your current capital stock and technical know-how, workers each day can produce widgets according to the scale below.

<table>
<thead>
<tr>
<th># workers</th>
<th>Total product (widgets/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>100</td>
</tr>
<tr>
<td>2</td>
<td>190</td>
</tr>
<tr>
<td>3</td>
<td>270</td>
</tr>
<tr>
<td>4</td>
<td>340</td>
</tr>
<tr>
<td>5</td>
<td>400</td>
</tr>
<tr>
<td>6</td>
<td>450</td>
</tr>
</tbody>
</table>

   a. To maximize profits, how many workers would you hire per day? Explain your reasoning.
   b. Suppose the market wage falls to $30 per day. How would this affect your demand for labor?
   c. Suppose the market wage is $40 but the price of widgets is $0.40. How many workers would you hire?

3. Predict the effects on equilibrium real wages and employment in the US of the following events, assuming that all else is equal.
   a. New advances in robotics enhance the productivity of the average worker.
   b. The US government restricts all immigration into the country.
   c. The labor force participation rate rises.
   d. Leisure becomes more valuable to households.
   e. There is a large upward surge in the capital stock.
   f. The price level rises. (Hint: be careful here.)
4. Headlines proclaim that a severe shortage of nurses threatens health care. If indeed there is a shortage in the market for nurses, what would you predict will happen to the wages paid to nurses (at least in the long-run), and why?

5. Suppose the labor market is initially in equilibrium, so that the labor force is fully employed. Now, the demand for labor falls due to an overall shortfall in the demand for output. If wages do not quickly adjust to this shift, what will likely happen to employment and unemployment in the short-run?

6. Classify each of the following as frictional, structural or cyclical unemployment.
   a. Jack, a bricklayer, has been unemployed since June because of a slowdown in residential construction.
   b. Jill, a computer programmer, quit her old job last month, and will start work at a new company (at higher pay) next month.
   c. Joe, an unemployed coal miner, has searched in vain for the past six months for a new job, but is unable to find work.

7. Assume that the aggregate labor market is initially in equilibrium at a real wage of $20 per hour, not including benefits. Now suppose the government passes a law that requires firms to pay, in addition to workers' wages, their health insurance premiums, which are 10% of the wage. Predict the effect this law will likely have on the observed equilibrium real wage and employment.