1. Gross Domestic Product: (GDP) is a Measure of a Nation's Output.
   a. GDP measures how much an economy produces in a given period (quarter or year).
   b. GDP is the market value of goods and services produced in a country during a period.
   c. GDP avoids double counting by counting only the value of final goods and services.

2. Nominal GDP is measured in "current dollars" while real GDP is measured in "constant dollars" by using prices from a base year (currently 2000).
   a. Some of the increase in nominal GDP is due to the increase the average level of prices.
   b. An example illustrates the difference between nominal and real GDP.

3. GDP can be disaggregated by the expenditure method
   a. GDP = C + I + G + NX
   b. C is consumption expenditure by households.
   c. I is investment defined as spending by firms on capital goods.
   d. G is spending on goods and services by federal, state, and local governments
   e. Net-exports is the value of exports minus the value of imports.

4. Some important caveats about GDP
   a. GDP is not the same thing as satisfaction, welfare, or utility.
   b. GDP fails to account for valuable goods and services that are not traded in markets.
   c. Growth in GDP does not imply growth in goods available to all segments of the population.
   d. Macroeconomists define investment to be the addition of productive capital. Purchases of equity shares are not investment because they do not increase the nation’s stock of capital.

5. The general level of prices is an average of market prices for the goods and services produced and consumed in an economy. Economists use many different price indexes. We focus on two.
   a. The GDP deflator is called an implicit price deflator because it is implicit in the formula Nominal GDP = P x Real GDP.
   b. The Consumer Price Index (CPI) is an index of prices of the goods consumed by a typical urban family.

6. The inflation rate is the growth rate of the general level of prices.
   a. There are many ways to compute an inflation rate—depending on the price index used, the interval of comparison chosen, and the formula used to calculate the growth rate.
   b. The following formula computes the rate of change in the monthly CPI price index over the last 12 months: Inflation = (CPI_t – CPI_{t-12})/CPI_{t-12}.
   c. The next page has a graph that displays the inflation rate computed using the GDP deflator with that computed using the CPI.

7. The Costs of Inflation
   a. Inflation obscures the information transmitted by prices and reduces the efficiency of the market system.
   b. Inflation creates an incentive for agents to use less cash and bear more “shoe leather” costs.
   c. Inflation causes changes in real tax burdens when tax rates are not indexed.
   d. Inflation makes it difficult to make accurate long run plans.
   e. If inflation comes as a surprise, then it benefits employers at the expense of workers and debtors at the expense of creditors. The largest debtor in the U.S. is the U. S. government.
Exercises

1. The following table reports production and prices in the nation of Simple Land.

<table>
<thead>
<tr>
<th>Year</th>
<th>Bread</th>
<th>Wine</th>
<th>Daycare</th>
<th>Nominal GDP</th>
<th>Real GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Loaves</td>
<td>Price</td>
<td>Jugs</td>
<td>Price</td>
<td>Hours</td>
</tr>
<tr>
<td>2009</td>
<td>100</td>
<td>$2.00</td>
<td>50</td>
<td>$10.00</td>
<td>250</td>
</tr>
<tr>
<td>2010</td>
<td>125</td>
<td>$2.10</td>
<td>40</td>
<td>$12.00</td>
<td>250</td>
</tr>
<tr>
<td>2011</td>
<td>115</td>
<td>$2.40</td>
<td>60</td>
<td>$8.00</td>
<td>250</td>
</tr>
</tbody>
</table>

a. What is the value of nominal GDP in each year?
b. What is real GDP (measured in 2009 dollars) in each year?
c. In what way(s) does the aggregation procedure destroy important information about changes in the Simple Land economy?

2. Which of the following economic transactions would result in a change in GDP? Explain
a. The purchase of a 1990 Ford Bronco.
b. A purchase of a share of IBM stock.
c. Steel purchased by General Motors.
d. A dry cleaning bill.
e. Saving $100 by doing your own laundry.
f. Paying a neighborhood kid $25 to mow your lawn.
g. Paying yourself $25 to mow your lawn.
h. Purchasing $50 of moonshine whiskey.

3. Here is some data for the economy of the fictitious country "Alpha." Calculate Alpha's GDP. Explain why each item was or was not included in GDP.

Consumption expenditures 1000
Exports 125
Government purchases of goods and services 300
Construction of new homes and apartments 125
Sales of existing homes and apartments 320
Imports 90
Beginning-of-year inventory stocks 140
End of year inventory stocks 160
Business fixed investments 250
Government payments to retirees 160
Household purchases of durable goods 265
4. Use the charted data for real GDP to answer the following questions.

![Real GDP Graph]

a. What shape is the graph? What does the shape of the graph imply about the long run growth rate of the US economy?
b. How could you use data from the graph to estimate the long run growth rate?
c. What “themes” do you see in the graph?

5. The next graph shows nominal and real GDP. What conclusions can you draw from the graph?

![Nominal and Real GDP Graph]

6. The following table reports production and prices in the nation of Simple Land.
a. What are the values of the real GDP deflator in 2009, 2010, 2011?
b. How well does the GDP deflator explain the course of prices in Simple Land?

7. The following chart displays the inflation rates based on the GDP deflator and the CPI.

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a. What are the values of the real GDP deflator in 2009, 2010, 2011?
b. How well does the GDP deflator explain the course of prices in Simple Land?

c. What themes are revealed by these data?