1. (5 points) Write C++ assignment statements that correspond to the following design statements.

   (a) Compute volume = length \times width \times height
   (b) Compute mpg = miles \div gallons
   (c) Increment count
   (d) Increment yCoord by deltaY
   (e) Multiply x by 5

2. (5 points) Suppose that \( x \) is assigned the value of 3 and \( y \) is assigned the value of 15. What are the results (values) of the following expressions:

   (a) \( y + 3.0 / 5.0 \)
   (b) \( x + 3 / 5 \)
   (c) \( 7 \% (5 \% 3) \)
   (d) \( x > 3 \)
   (e) \( y <= 15 \)

3. (3 points) Consider the following code fragment:

   ```cpp
   while (x > 0)
   {
       cout << x << endl;
       x = x - 3;
   }
   ```

   What is the output produced if

   (a) \( x \) is initialized to 2 before the loop
   (b) \( x \) is initialized to 10 before the loop
   (c) \( x \) is initialized to -42 before the loop

4. (3 points) Consider the following code fragment:
do
{
    cout << x << endl;
    x = x - 3;
} while (x > 0);

What is the output produced if

(a) \(x\) is initialized to 2 before the loop
(b) \(x\) is initialized to 10 before the loop
(c) \(x\) is initialized to -42 before the loop

5. (4 points) Write (only) an analysis and design using the format shown in class and in the on-line handout *An Analysis and Design Style Guideline* for the problem statement in Programming Project 6 on pages 105-106 of the textbook. Do the easier version without the repetition.