Program Development Process

Programming is a long process that involves a lot of planning prior to writing any code. The first step is the program plan, which has already been discussed. The remainder of the development process consists of converting the program plan to pseudocode or code in a programming language. These are the stops for the development process that will be followed in this course.

1. Program Plan
   a. Problem Statement
   b. Analysis
      i. Inputs
      ii. Outputs
      iii. Constants
      iv. Formulas
      v. Constraints (enforced by your program)
      vi. Assumptions (not enforced by your program)
   c. Design
   d. Test plan
   e. Time estimates

2. Declare variables – these are identified in the analysis phase of the Program Plan; write a variable declaration for each input and output identified.

3. Declare constants - these are identified in the analysis phase of the Program Plan; write a variable declaration for each constant identified, either as a constant variable or a pre-compiler directive (#define).

4. Write the function calls in function main() – each low- or mid-level task in the program design will become a function call.

5. Write the function prototypes for each function called in the function main().

6. Write function stubs (function definition with an empty body; heading with {} only) for each function prototype.

7. Compile the program (even without bodies for the function definitions, the program should compile without any syntax errors.

You now have the main outline of the program. Now, fill in the body for each function definition, one-by-one. As you complete the code for each function body, compile the program to ensure there are no syntax errors.

When the program is complete, make sure it compiles, then test it by following your test plan.