

Your design document must include the following:

1. **An executive summary and description of the problem.** This should also include a description of who the users of the software program will be and what is the primary use of the program.
2. **A design overview.** The design overview should briefly describe the elements of your program. It should indicate how you will solve the problem stated in your executive summary.
3. **Detailed design.** This will be the heart of your design document. It should include the following sections:
 - a. *User Interface Design*
The user interface should be described in detail, with mock ups showing exactly how the user interface will look and work. It should include a complete computer/user dialog, along with the output produced. This includes program headings, column headings, and sample data from the rows and column in your amortization schedule. It should also include sample dialogs showing how errors will be handled.
 - b. *Architectural Design*
The architectural design should show your structure decomposition of the problem. It should show program modules or functions and the data communication (coupling) between these modules. The major algorithms (monthly payment calculation, amortization schedule calculations, etc) must be described in pseudo code or in mathematical formulas. You will then be able to convert these major algorithms to C++ code for assignment #3.
 - c. *Design Criteria and Constraints*
This section should include the design criteria and constraints that you are stipulating as part of your program design. What are the limits for your input values (i.e. max interest rate, max loan term, max loan amount).
 - d. *Error and Exception Handling*
Specific error handling procedures and requirements should be included. The methods for handling those error conditions should be described. Your error handling inputs and outputs should be described in detail.

Assume this to be a professional document. It need not be long (probably 2 – 4 pages), but should be inclusive enough so it could be given to a fellow class member so they could implement the design without additional research.