

SSE 3.0

A strategic decision has been made to transform our simple spreadsheet engine into a full-blown spreadsheet application. This transformation is to occur gradually, in a series of increments.

In the first increment, you have the following two important goals:

1. Perform a restructuring of our current code base, as to facilitate the future adding of a graphical user interface (GUI), by implementing the architectural pattern “Model-View-Controller”. In the context of the existing, console-based and output-only interface, the first step should be a clear-cut separation between the model component on one side, and the view+controller components on the other side.
2. Implement a “Façade” for the Model component.
3. Implement the automatic update of cells as follows: any change performed by the user in a given cell, should automatically trigger the updating of all affected cells (i.e. reference cells and formula cells). This update process should work like a chain reaction, or an avalanche, in the sense that any updated cells should in turn trigger the updating of all cells that depend on them, and so forth. (Hint: use the design pattern “Observer” to implement the notification mechanism).