Excel Solver Summary

Target cell: a cell on the spreadsheet which computes a quantity you want to make as big (or small) as possible. Examples: profit, cost

Changing cells: the Solver will substitute values into these cells until it finds the values that give the best result in the target cell. (These cells contain what the example problems call the "allocation variables").

Constraints: limitations on the values of cells on the spreadsheet. Expressed as:

\[ \text{cell reference} \quad \leq, \geq, \text{ or } = \quad \text{cell reference or constant}. \]

You can also constrain changing cells to be integer (int) only or binary (bin), that is, either 0 or 1.
Interpreting Excel Solver Reports

When the solver is finished you can generating reports by selecting them in the dialog box. The limits report is not useful for our purposes.

**Answer Report**
Gives the best value the solver could find for the target cell and what values of the changing cells gave this best result. *Original Value* means value in the cell when the solver was started, *Final Value* means the value after solver finished. Constraints can be binding (all of the resource was used or the policy was pushed to its limit) or non-binding (there is extra resource left over or the requirement was more than met.) Non-binding constraints will have slack, which is the difference between a cell value and the limitation placed on it.

**Sensitivity Report**
(The description below applies to the sensitivity report if all the formulas in the model are linear. For non-linear models, see the solver documentation.)

Adjustable cells section:
The *final value* is the best value of the changing cells. This is how many units of activity should be "done". The rest of the information applies to the worth of the units of activity. *Reduced cost* is how much the worth would have to change in order to give the changing cell a non-zero value. *Objective Coefficient* is the worth of the activity. *Allowable increase/decrease* is how much the worth of the activity could change without changing the optimal values of the changing cells.

Constraints:
*Final value* is how much of the resource was used. The *shadow price* is the amount the target cell value would change if the constraint limit was increased by one. The *constraint R.H. side* (right hand side) is the original constraint limit. The *allowable increase* and *decrease* give the range in which the shadow price applies.