Spike: Task 4
Title: Goal Oriented Behaviour

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Goals / deliverables:
- Working code to demonstrate goal-oriented behaviour (GOB) using simple goal insistence (SGI).
- Demonstrations of where SGI does and does not work well.

Technologies, Tools, and Resources used:
- Visual Studio 2017
- Learning materials on Canvas

Tasks undertaken:
- (If Visual Studio is not already installed) download and install Visual Studio with python3 compatible packages.
- Create a python3 project in Visual Studio and copy the sample code into it.
- Read the sample code to get a gist of what's going on, noting comments denoting missing functionality (don't implement said functionality yet).
- Compile and run project to see what happens when running the unaltered sample code.
- If the code breaks, fix the errors, re-compile and re-run it.
- Look for comments denoting missing functionality. Pick one, and fill in the blanks.
- Re-compile the project and run it again. If it breaks or does not work as intended, edit and re-run the code until it works as intended.
- Find other missing functionality and repeat.

What we found out:
If the intention of the code provided to students was that we should modify it to address all the additional functionality listed in comments and have the program reach a "Done" state:
- When only one value needed to be evaluated (the effect on the goal being worked towards), the program worked perfectly fine and reached a "Done" state within a few loops.
- When evaluating the intended effect *and* side effects of an action, it was dependent on the magnitude of all the effects of the actions as to whether the program got stuck in a loop where reducing one goal to 0 required the other goal to be addressed, and so on.