

## Lab: Goal Oriented Behaviours and SGI

## Objective

The goal of this lab is to create a simple goal insistence (SGI) model simulation of goal-oriented behaviour (GOB) that demonstrated both the effectiveness and the limitations of the technique.

## Add Selection Code

```
best_action = None
best_utility = None
for key, value in actions.items():
    # Does this action change the "best goal" we need to change?
    if best_goal in value:
        # Calculate the utility of this action for the best goal
        current_utility = action_utility(key, best_goal)

        # Do we currently have a "best action" to try? If not, use this one
        if best_action is None:
            best_action = key # Store the current action key as the best
            best_utility = current_utility # Store the utility value as the

        # Is this new action better than the current action?
        else:
            # If this action's utility is greater than the best utility found
            if current_utility > best_utility:
                best_action = key # Update the best action
                best_utility = current_utility # Update the best utility

# Return the "best action"
return best_action
```

## Demonstrate when SGI does not work well:

SGI is a useful way to choose the best current option, however the biggest downside to SGI is that it is by nature short-sighted. It only takes into account the current move. Because of this it can sometimes even get stuck in infinite loops.