

# Assignment 1

## Objective:

Implement the A\* (a star) search algorithm to solve the vacuum cleaner problem from lab 1.

## Description:

Use the vacuum cleaner problem from lab one as the environment for the A\* solution.

This means you will have to find a way to fit the vacuum cleaner problem into a A\* solution.

To give you some help here is an example of an approach to this:

Use 5 data structures with data derived from the vacuum cleaner problem:

INITIAL\_STATE

GOAL\_STATE

STATE\_SPACE

HEURISTICS

COSTPATHS

Your starting position should be 'A', 'Dirty', 'Dirty' and your goal states 'A', 'Clean', 'Clean' or 'B', 'Clean', 'Clean'.

Figure out how to represent the heuristics in the vacuum cleaner problem.

## Practical information:

As mentioned you don't have to hand-in a complete implementation.

All we ask is an honest attempt.

The assignment is individuel.

The deadline is 27 March.

## Note:

The lab pdf says "You should be able to use much of the code from the first homework (Lab 1)." This is a bit misleading as of course you will mostly be using the A\* code from lab 3 and using the code from lab 1 to describe the environment