

# TDT4136 Assignment 2

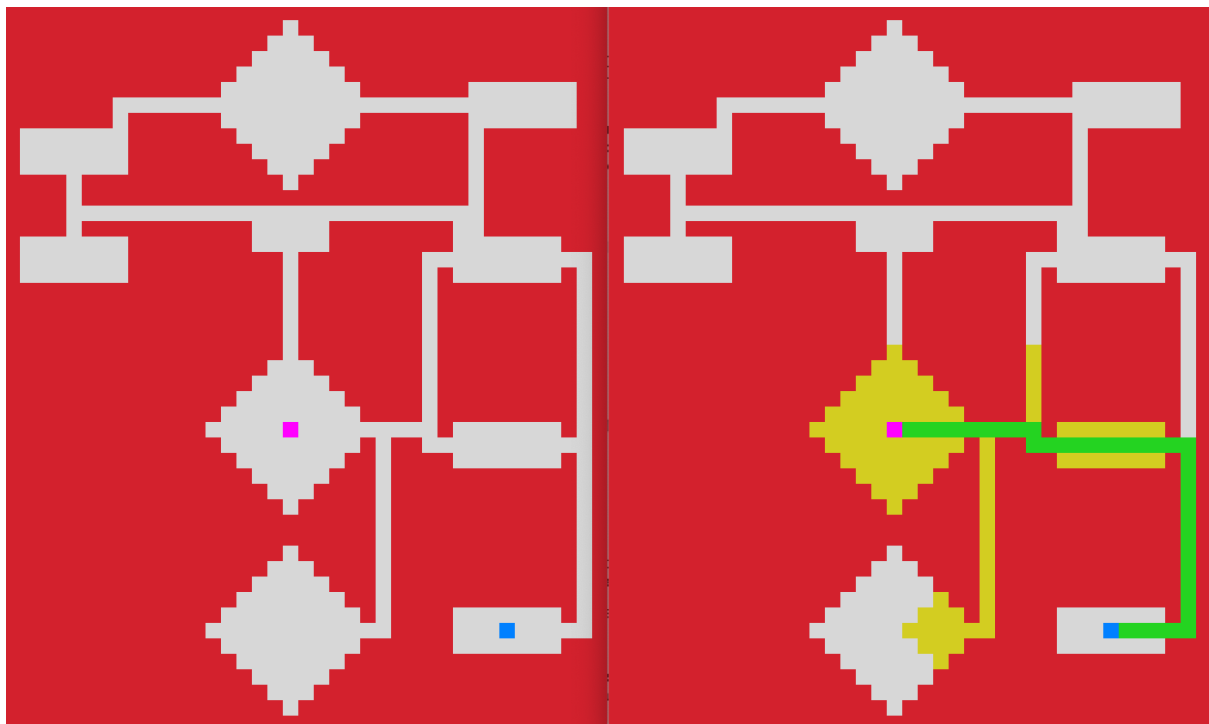
In this assignment, we have implemented the A\* algorithm with the example problem of navigating Samfundet under different circumstances.

I have solved all four tasks with the same Python file `a-star.py`. I have also slightly modified `Map.py` to add more color options when drawing the map. To switch between the different tasks, there is a global variable `TASK_NUMBER` at the top of `a-star.py` that can be changed to run the algorithm for the different tasks. The algorithm runs with Manhattan distance as the default heuristic function, but there is a global variable at the top of the file that can be changed to use Euclidian distance instead.

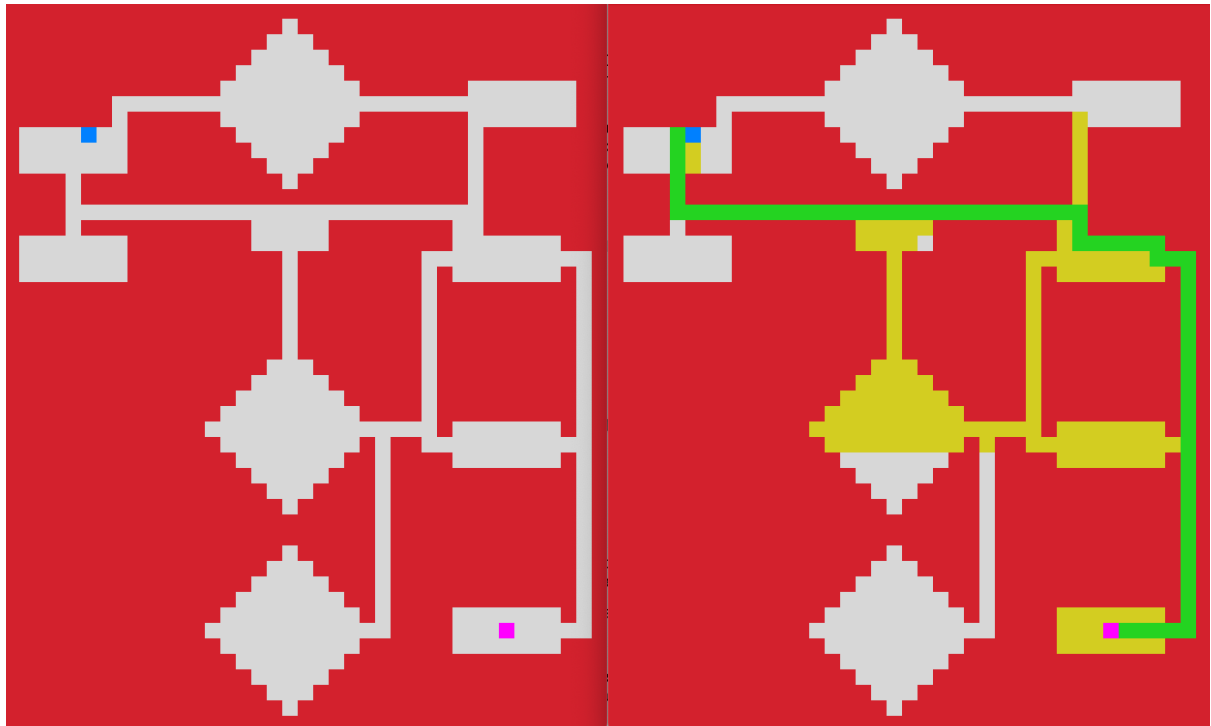
When running the program, two images will open: the first one is a map of the environment before the algorithm runs, and the second one shows the shortest path with green tiles and every expanded tile in yellow.

## Results

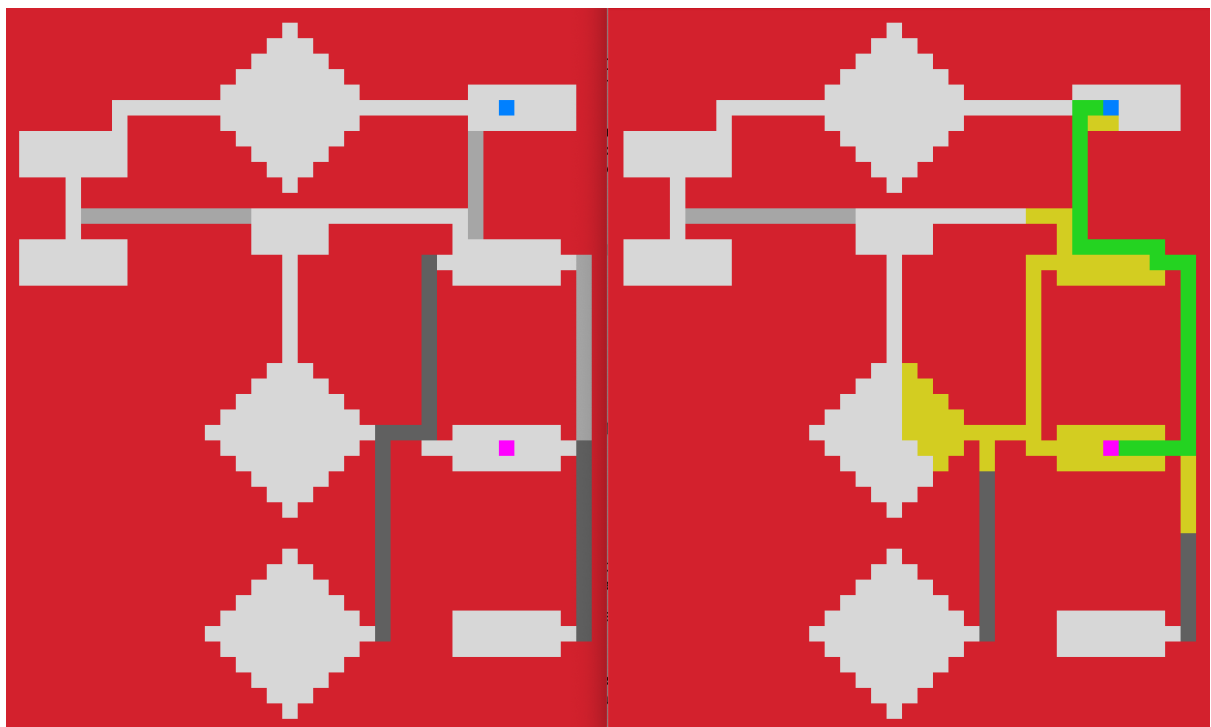
## Task 1



## Task 2



### Task 3



### Task 4

