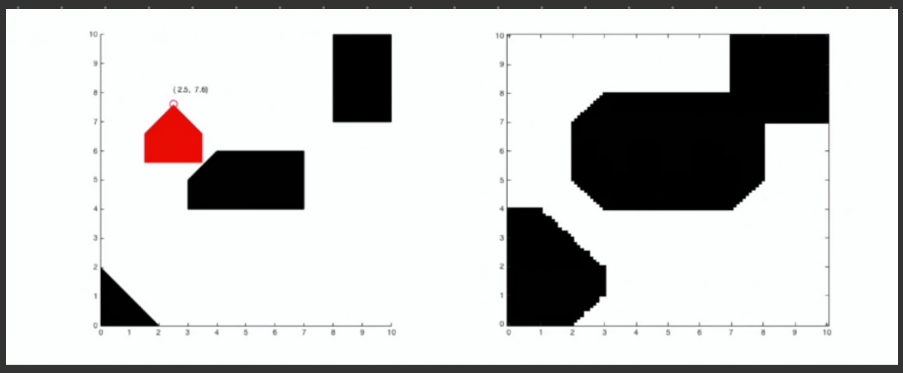
# Configuration Space

Set of all configurations a robot can attain ⇒ Configuration Space

Region a robot cannot go to is called configuration space obstacle

Comprises of ↵
actual region
+
Robot



So path planning essentially involves the configuration space avoiding configuration space obstacles

## Visiblity Graph

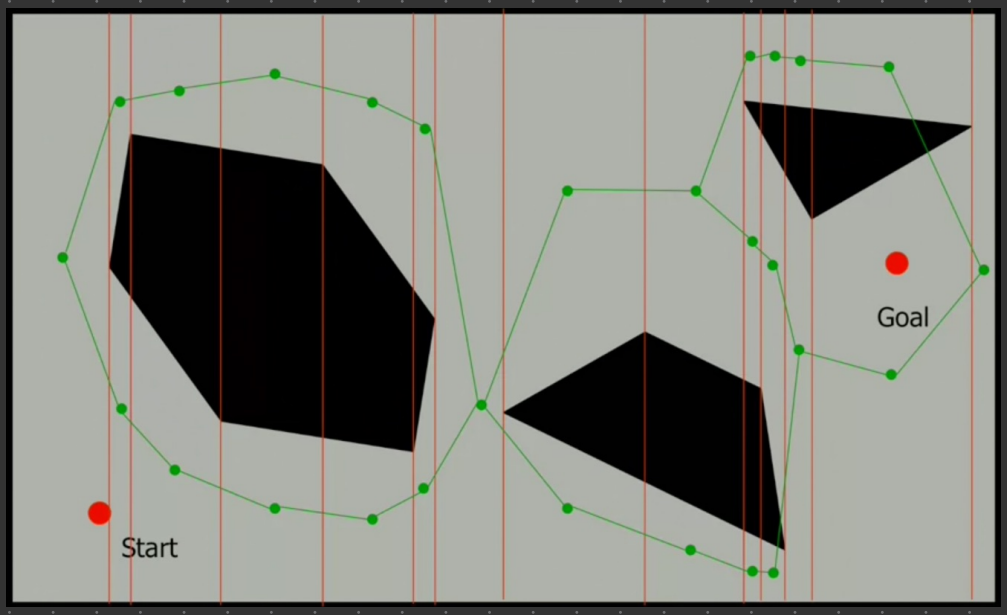
Draw edge b/w any two vertices that can be connected by straight line entirely in free space.

↳ Then use Dijkstra's / A*

Leads to trajectory going very close to obstacles ↵ → Can be solved by assuming robot to be larger than it actually is to keep a larger margin as the config. space obstacles are inflated.

# Trapezoidal Decomposition

Divide into subposts as follows:




Practically obstacles aren't explicit, implicit objects are given by collission detection function