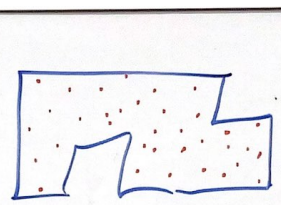
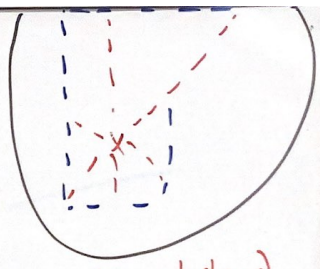
1. Initialize Particles
   Uniformly random
2. Odom. Update
   Matrix transform
3. Compute Weights
   a. avg every k^0
   b. transform avgs onto each particle
   c. for each particle, for each pt, find dist to nearest wall in map
   d. sum dists for each particle
   e. weight $\propto \frac{1}{\sum_i dist}$ (scaled so sum of weights = W)
4. Compute Robot Position
   ≈ particle w/ highest weight
5. Sample New Particles
   ∀ old particle, # new ∝ weight (so total # new is N)
   randomly vary new pts from old w/ $\sigma \propto \frac{1}{w}$





(angles not shown)