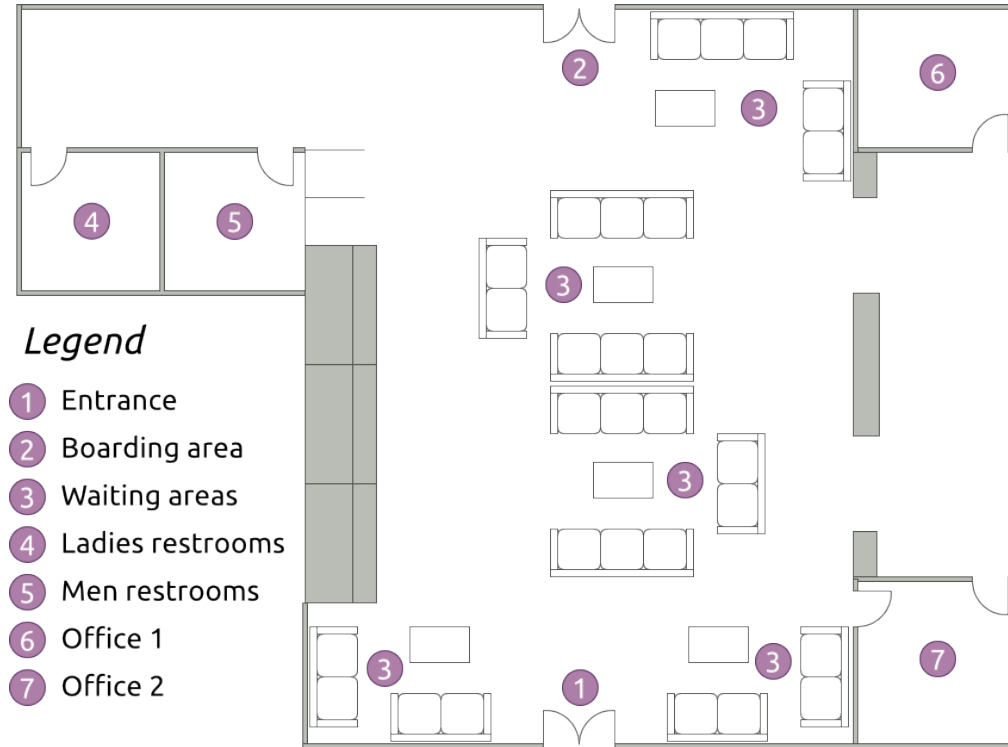


# Mobile Robots and Autonomous Vehicles

## Week 5: Behavior Modeling and Learning

- E-M Clustering

# Recapitulation: finding typical trajectories



# Recapitulation: finding typical trajectories



# Recapitulation: finding typical trajectories



# Clustering

Problem: assign a label  $l$  to each datum in order to:

- Maximize the difference for data having different labels (intra-class variability).
- Minimize the differences for data having the same label (inter-class similarity).

# Metrics

- Euclidean Distance.
- Mahalanobis Distance.
- Earth-mover Distance.
- Edit Distance.
- Manhattan Distance.