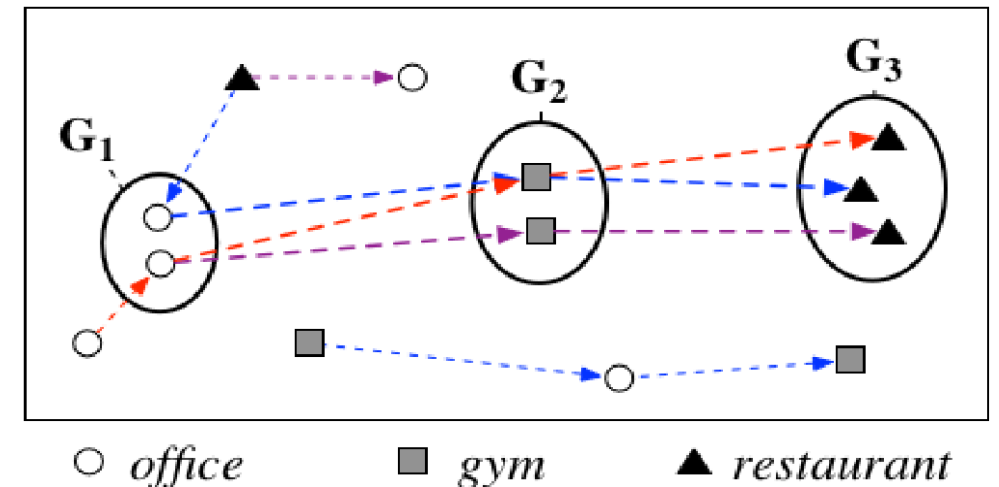# Mining Semantics-Rich Movement Patterns

Mining Frequent Movement Patterns

❏ **Frequent Movement Pattern:** A movement sequence that frequently appears in the input trajectory database

❏ **Frequent Movement Pattern vs. Frequent Sequential Pattern**

  ❏ Both aim at finding frequent subsequences from the input sequence database

  ❏ For mining frequent movement patterns, similar places may need to be grouped to collectively form frequent subsequences
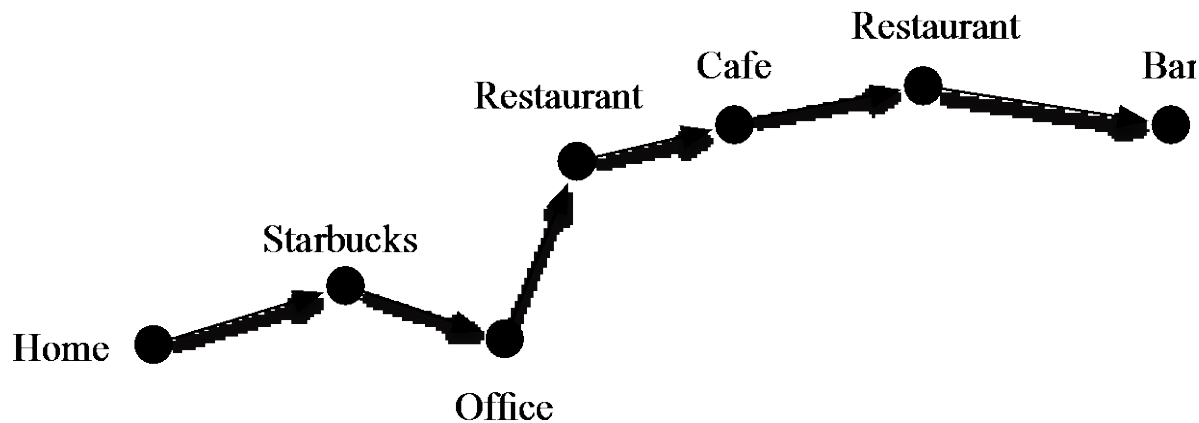
An example trajectory

An example movement pattern

Mining Semantics-Rich Movement Patterns

❑ **Semantics-rich movement pattern**: In addition to knowing how people move from one region to another, we also want to understand the functions of the regions

❑ **A two-step top-down mining approach:**

  ❑ Step 1: Find a set of coarse patterns that reflect people's semantics-level transitions (e.g., office → restaurant, home → gym)

  ❑ Step 2: Split each coarse pattern into several fine-grained ones by grouping similar movement snippets

C. Zhang et al., Splitter: Mining Fine-Grained Sequential Patterns in Semantic Trajectories, VLDB 2014

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