```
Citi Bike Query 1:
  PATTERN AND(ShortY sy, LongY ly, VLongC vc, LongO lo)
  WHERE sy.bID=ly.bID ∧ ly.bID=lo.bID ∧ lo.bID = vc.bID
  WITHIN 24h

Citi Bike Query 2:
  PATTERN SEQ(VLongY vy, AND(VLongC vc, LongO lo, LongC lc))
  WHERE vy.bID=vc.bID ∧ vc.bID=lo.bID ∧ lo.bID = lc.bID
  WITHIN 24h
```

Listing 1: Queries used for Citi Bike Dataset

1 Citi Bike

Characterization for derivation of event types:

(1) short trip $< 100s$

(2) long trip $100s \leq x \leq 5000s$

(3) very long trip $> 5000s$

(4) young, year of birth ≥ 1962

(5) old, year of birth < 1962

(6) customer (instead of member) if not year of birth given

Examples for event types:

- *ShortY* corresponds to a **short trip** with the driver being a **young** member.

- *LongC* corresponds to a **long trip** with the driver being a **customer**.

- *VLong0* corresponds to a **very long trip** with the driver being an **old** member.

```
Google Cluster Query 1:
  PATTERN AND(Update1 u1, Update2 u2, SEQ(Kill k, Fail f))
  WHERE u1.uID=u2.uID ∧ u2.uID=k.uID ∧ k.uID=f.uID
  WITHIN 30min

Google Cluster Query 2:
  PATTERN SEQ(Update1 u, Submit su, Schedule s, Finish f)
  WHERE u.uID=su.uID ∧ su.uID=s.uID ∧ s.uID=f.uID
  WITHIN 30min
```

Listing 2: Queries used for Google Cluster Monitoring

2 Google Cluster Monitoring

A description of the event types contained in the Google Cluster queries can be found here (click me).

○ *Update 1* corresponds to the event type Update_Scheduled

○ *Update 2* corresponds to the event type Update_Running