COVID-19 LOCKDOWN SEMAPHORE IN MEXICO

State diagram with nodes:

- **NODE-1 PATIENT** → INFECTED (POSITIVE TEST); PATIENT → PATIENT (NEGATIVE TEST)
- **NODE-2 INFECTED** → HOSPITALIZED (HIGHER SYMPTOMS); INFECTED → INFECTED (LOWER SYMPTOMS); INFECTED → INFECTED (ASYMPTOMATIC); INFECTED → PATIENT (RECOVERED); INFECTED → DEATH (NOT RECOVERED)
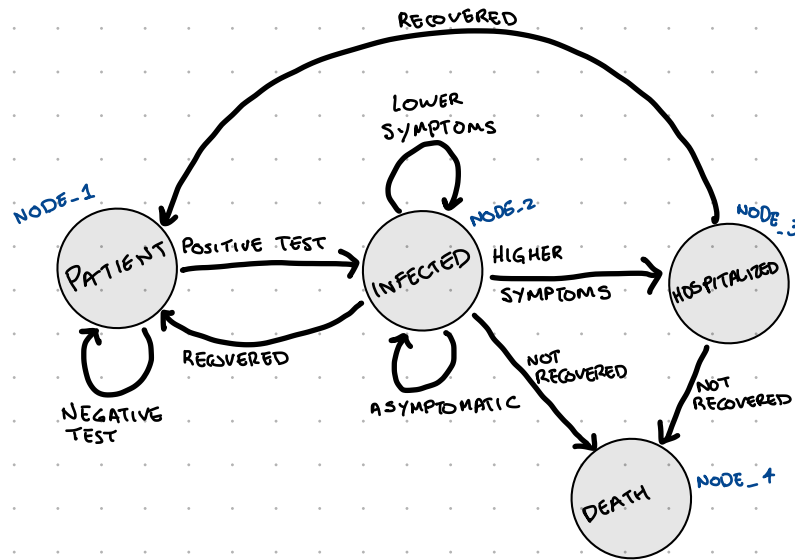- **NODE-3 HOSPITALIZED** → PATIENT (RECOVERED); HOSPITALIZED → DEATH (NOT RECOVERED)
- **NODE-4 DEATH**

Notes:
- Mexico has a fixed number of bed grouped by region.
- If the number of hospitalized people exceeds 75% then the lockdown is declared.
- In other case, the activities remain the same.

TABLE DESCRIPTION

ID	DESCRIPTION
1	PATIENT
2	INFECTED
3	HOSPITALIZED
4	DEATH

MAPPING TABLE

SOURCE	DESTINY	EDGE
PATIENT	INFECTED	POSITIVE TEST
PATIENT	PATIENT	NEGATIVE TEST
INFECTED	HOSPITALIZED	HIGHER SYMPTOMS
INFECTED	INFECTED	LOWER SYMPTOMS
INFECTED	INFECTED	ASYMPTOMATIC
INFECTED	PATIENT	RECOVERED
INFECTED	DEATH	NOT RECOVERED
HOSPITALIZED	DEATH	NOT RECOVERED
HOSPITALIZED	PATIENT	RECOVERED

DESCRIPTION & QUESTIONS

- I tried to emulate the mexican goverment analysis to declare a **LOCKDOWN** or to continue normal activities.
- The information is collected from the hospitals and store into a national database.
  - The database contain lot of information related to the COVID outbreak. However, for this task we only use the following fields:
    - **PATIENT_ID**
    - **HOSPITALIZED**
      - Yes
      - No
    - **DEATH**
      - Yes
    - **RECOVERED**
      - Yes
      - No
    - **SYMPTOMS**
      - low
      - high
      - asymptomatic
    - **INFECTED**
      - Detected by lab test

POSIBLE QUESTIONS:

1. Which patients are considered to be hospitalized?
   - In Mexico, only the patients who presents higher symptoms are hospitalized.

2. How to detect which patients are infected?
   - All people who are positive detected by laboratory test are considered as infected

3. What happens if I present lower symptoms?
   - People with lower symptoms are considered as infected but they aren't hospitalized.

4. Do I consider as infected patient once I recovered?
   - Yes, you do. The status change to recover but you are considered as infected for statistics purposes.