**Components**

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| System | Emergency Department |
| Entities | Patients |
| Resources | Nurses, Doctors, Beds |
| Attributes | Type of Patient, Type of Service, Service Time |
| Activities | Lab Test (by Nurse), Doctor Consult, Stay in Bed |
| Events | Arrival, Departure |
| State Variables | Number of patients waiting, Queue length at each station, Number of staff busy at each station |

**Input Data**

Definitions:

* Station
  + Lab (Stations staffed by nurse)
    - Nurse allocated to each lab can only stay within that lab and not move to other labs if they’re free
    - Labs are done sequentially in ascending order
  + Doctor’s Room (Station where doctor’s consult is done)
  + Bed
    - Only for main track, if patient is diagnosed at doctor room to need a bed stay, the patient will proceed to this station

Inputs:

* Station
  + Number of staff/beds
  + Name
  + Treatment time distribution
  + Probability station is needed
    - First lab and doctor’s room are compulsory for all patients, probability specified for these stations will be overridden to 1
* Patient
  + Probability patient is of type fast track
  + Patient interarrival time distribution

**Output Collected**