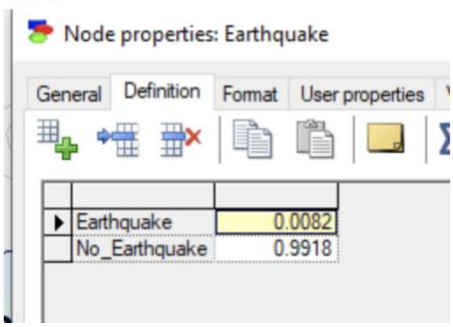
Lab 16

Annual probability of burglary per house = 50 / (2 * 1350) = 0.0185 ≈ 0.019.

P(Burglary) = 0.019
P(No Burglary) = 1 - 0.019 = 0.981

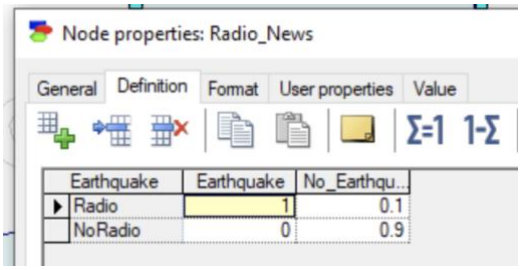
Daily probability of an earthquake = 3 / 365 ≈ 0.0082.

P(Earthquake) = 0.0082
P(No Earthquake) = 1 - 0.0082 = 0.9918

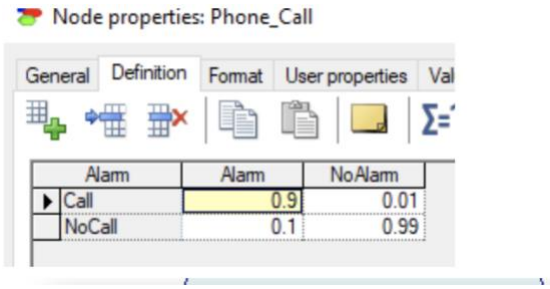


Alarm catches 95% of burglaries.
Alarm triggered by 1 out of 5 earthquakes.

P(Radio News | Earthquake) = 1.0
P(Radio News | No Earthquake) = 0.1 (Assume a 10% false report rate)



P(Phone Call | Alarm) = 0.9 (Assume Watson hears it 90% of the time)
P(Phone Call | No Alarm) = 0.01 (Assume a very low false call rate)



P(Alarm | Burglary, Earthquake) = 0.95
P(Alarm | Burglary, No Earthquake) = 0.95
P(Alarm | No Burglary, Earthquake) = 0.2
P(Alarm | No Burglary, No Earthquake) = 0.001 (Assume a very low false alarm rate)