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In [21]: from pgmpy.models import BayesianModel
from pgmpy.factors.discrete import TabularCPD
from pgmpy.inference import VariableElimination
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In [16]: # Model definition
model = BayesianModel([('E', 'F'), ('E', 'S'), ('F', 'V'), ('S', 'V'),
                       ('V', 'D'), ('S', 'C')])

# CPDs definition
cpd_e = TabularCPD(variable='E', variable_card=2, values=[[0.99],[0.01]])
cpd_f = TabularCPD(variable='F', variable_card=2, values=[[0.9, 0.4],
[0.1, 0.6]], evidence=['E'], evidence_card=[2])
cpd_s = TabularCPD(variable='S', variable_card=2, values=[[0.95, 0.2],
[0.05, 0.8]], evidence=['E'], evidence_card=[2])
cpd_d = TabularCPD(variable='D', variable_card=2, values=[[1.0, 0.4],
[0.0, 0.6]], evidence=['V'], evidence_card=[2])
cpd_c = TabularCPD(variable='C', variable_card=2, values=[[0.9, 0.25],
[0.1, 0.75]], evidence=['S'], evidence_card=[2])
cpd_v = TabularCPD(variable='V', variable_card=2, values=[[1.0, 0.3,
0.5, 0.2],[0.0, 0.7, 0.5, 0.8]], evidence=['F', 'S'], evidence_card=[
2, 2])

# Adding the CPDs to the model
model.add_cpds(cpd_e, cpd_f, cpd_s, cpd_d, cpd_c, cpd_v)

# Model check
model.check_model()
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Out[16]: True

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In [20]: # Variable elimination
inf = VariableElimination(model)

# Perform the query
query = inf.query(variables=['E'], evidence={'D':1})
print(query['E'])
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E	phi(E)
E_0	0.9248
E_1	0.0752

Por lo tanto, la probabilidad de que, dado que un paciente es llevado al doctor, éste no tenga ébola ($P(E = \text{Falso} | D = \text{Verdadero})$) es de **0.9248**.