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In [2]: import numpy as np
import pandas as pd
import csv
from pgmpy.estimators import MaximumLikelihoodEstimator
from pgmpy.models import BayesianModel
from pgmpy.inference import VariableElimination
lines=list(csv.reader(open('data7_names.csv','r')));
attributes=lines[0]
heartDisease = pd.read_csv('data7_heart.csv',names=attributes)
heartDisease = heartDisease.replace('?',np.nan)
model=BayesianModel([('age','trestbps'),('age','fbs'),('sex','trestbps'),('exang','trestbps'),
                    ('trestbps','heartdisease'),('fbs','heartdisease'),('heartdisease','restecg'),
                    ('heartdisease','thalach'),('heartdisease','chol')])
model.fit(heartDisease,estimator=MaximumLikelihoodEstimator)
HeartDisease_infer = VariableElimination(model)
q=HeartDisease_infer.query(variables=['heartdisease'],evidence={'age':28})
print(q['heartdisease'])
q=HeartDisease_infer.query(variables=['heartdisease'],evidence={'chol':100})
print(q['heartdisease'])
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heartdisease	phi(heartdisease)
heartdisease_0	0.5932
heartdisease_1	0.1714
heartdisease_2	0.0811
heartdisease_3	0.1138
heartdisease_4	0.0405
heartdisease	phi(heartdisease)
heartdisease_0	1.0000
heartdisease_1	0.0000
heartdisease_2	0.0000
heartdisease_3	0.0000
heartdisease_4	0.0000