Machine Learning Project 1 Report

The values obtained are

Mean of the four variables:

mu1: 3.21

mu2: 53.39

mu3: 469178.82

mu4: 29711.96

Variance

var1: 0.46

var2: 12.588

var3: 13900134681.7

var4: 30727538.733

Standard Deviation

sigma1: 0.678

sigma2: 3.548

sigma3: 117898.832

sigma4: 5543.243

Covariance Matrix

covarianceMat:

[[4.58000000e-01   1.10600000e+00   3.87978200e+03   1.05848000e+03]

[1.10600000e+00 1.28500000e+01 7.02793760e+04 2.80578900e+03]

[3.87978200e+03 7.02793760e+04 1.41897208e+10 -1.63685641e+08]

[1.05848000e+03 2.80578900e+03 -1.63685641e+08 3.13676958e+07]]

Correlation Matrix:

[[1.   0.456 0.048 0.279]

 [0.456 1.   0.165 0.14]

 [0.048 0.165 1.   -0.245]

 [0.279 0.14 -0.245 1.   ]]

LogLikelihood: -

1315.10763272

BNgraph =

[[0. 0. 0. 0.]

 [1. 0. 0. 0.]

 [1. 0. 0. 0.]

 [1. 0. 0. 0.]]

BNlogLikelihood = -1307.83665284

Plotting graph: