Diagram

Description automatically generated

Diagram

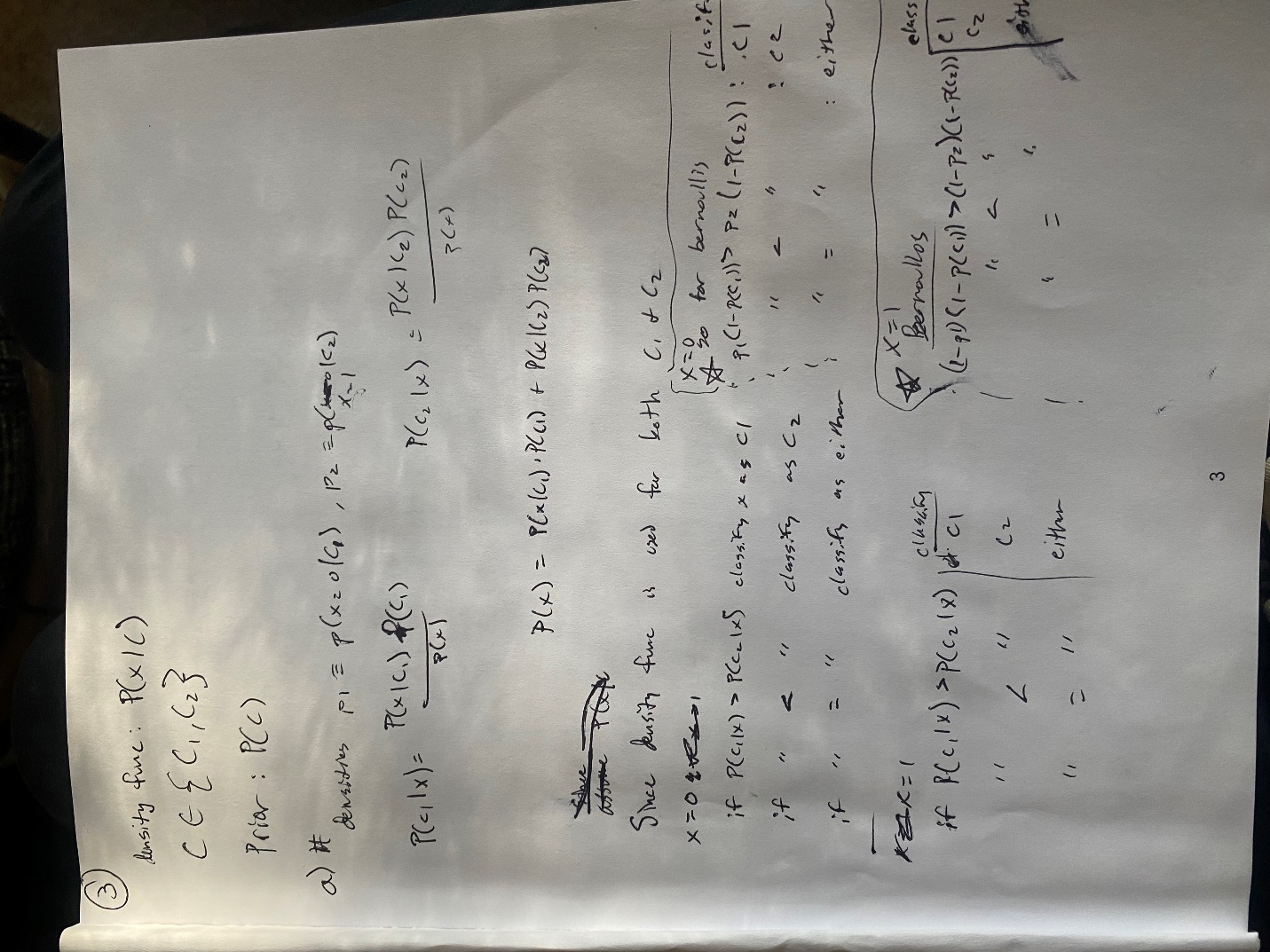
Description automatically generated

Diagram

Description automatically generated with low confidence

Diagram

Description automatically generated



Text

Description automatically generated

3c:

x = (0, 0): P(C1|x) = nan, P(C2|x) = nan

x = (0, 1): P(C1|x) = nan, P(C2|x) = nan

x = (1, 0): P(C1|x) = nan, P(C2|x) = nan

x = (1, 1): P(C1|x) = 0.2, P(C2|x) = 0.8

Priors: P(C1) = 0.6, P(C2) = 0.4

x = (0, 0): P(C1|x) = nan, P(C2|x) = nan

x = (0, 1): P(C1|x) = nan, P(C2|x) = nan

x = (1, 0): P(C1|x) = nan, P(C2|x) = nan

x = (1, 1): P(C1|x) = 0.6, P(C2|x) = 0.4000000000000001

Priors: P(C1) = 0.8, P(C2) = 0.19999999999999996

x = (0, 0): P(C1|x) = nan, P(C2|x) = nan

x = (0, 1): P(C1|x) = nan, P(C2|x) = nan

x = (1, 0): P(C1|x) = nan, P(C2|x) = nan

x = (1, 1): P(C1|x) = 0.8, P(C2|x) = 0.19999999999999993

[see code problem3c.py]

4: Table of Error Rates:

Prior Value Error Rate

0.000010 0.540000

0.000100

0.540000

0.001000 0.540000

0.010000 0.540000

0.100000 0.510000

1.000000 0.515000

2.000000 0.455000

3.000000 0.460000

4.000000 0.460000

5.000000 0.460000

6.000000 0.460000

The error rate with the best prior on the test is: 0.44499999999999995