

2) a) Decision boundary for Bayes predictor is  
1.1120810959

b) True Error of Bayes predictor  $E = 0.10772$

c) The Best hypothesis  $h^*$  is  $i = 445$   
The predictor is:  $b^* = 1.1125$

d) The true error of  $h^*$  is  $L_D(h^*) = 0.1077187$

e) See code - The best hypothesis space for my distribution is  $i = 434$

The decision boundary  $b^* = 1.085$

f) The true error  $h_S, L_D(h_S)$  is 0.09

3) See code