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| CS 479/679 Pattern Recognition |
| Programming Assignment 1 Bayes Decision Theory  |  | | --- | | Jesus Manuel Aguilera Eduardo Arce-Gutierrez | |
| The programming assignment was divided mainly by collaboration and not by preassigned tasks. We both contributed with the Programming part as well as the report elaboration and revision. |

1. **Data generation Set A and B**
   1. We implemented the Box-Muller transformation using –Language  
      The data was stored in –
   2. We plotted the data using --MATLAB or Excel?  
      Explanation  
      Explanation.
2. **Experiment with samples from set A**
   1. Bayes classifier
   2. Plot of Bayes decision boundary and generated samples
   3. Classification and reporting of the:
      1. Misclassification rate class 1 and 2
      2. Total misclassification rate
   4. Theoretical probability error calculation and comparison with 1:c:ii
3. **Experiment with samples from set B**
   1. Bayes classifier
   2. Plot of Bayes decision boundary and generated samples
   3. Classification and reporting of the:
      1. Misclassification rate class 1 and 2
      2. Total misclassification rate
   4. Theoretical probability error calculation and comparison with 2:c:ii
   5. Compare with Experiment 1
4. Euclidian distance classifier
   1. Compare with Experiment 1 and explain
5. Euclidian distance classifier
   1. Compare with Experiment 2 and explain