**ASSIGNMENT 3(MACHINE LEARNING)**

**By**

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**Course: CS 6375**

**Section:002**

**Naïve Bayes classifier was implemented using binary output as well as binary type attributes. That is only 2 values are there for each attribute that are possible,0 and 1.**

***OUTPUT on next page*:**

**Probability of class value =1 is0.2775**

**Probability of class value =0 is0.7225**

**P[wesley=1/C=1]= 0.35135135135135137**

**P[wesley=0/C=1]= 0.6486486486486487**

**P[romulan=1/C=1]= 0.4864864864864865**

**P[romulan=0/C=1]= 0.5135135135135135**

**P[poetry=1/C=1]= 0.6126126126126126**

**P[poetry=0/C=1]= 0.38738738738738737**

**P[honor=1/C=1]= 0.6576576576576577**

**P[honor=0/C=1]= 0.34234234234234234**

**P[tea=1/C=1]= 0.7072072072072072**

**P[tea=0/C=1]= 0.2927927927927928**

**P[barclay=1/C=1]= 0.36036036036036034**

**P[barclay=0/C=1]= 0.6396396396396397**

**P[wesley=1/C=0]= 0.5432525951557093**

**P[wesley=0/C=0]= 0.45674740484429066**

**P[romulan=1/C=0]= 0.4982698961937716**

**P[romulan=0/C=0]= 0.5017301038062284**

**P[poetry=1/C=0]= 0.4515570934256055**

**P[poetry=0/C=0]= 0.5484429065743944**

**P[honor=1/C=0]= 0.46366782006920415**

**P[honor=0/C=0]= 0.5363321799307958**

**P[tea=1/C=0]= 0.42560553633217996**

**P[tea=0/C=0]= 0.5743944636678201**

**P[barclay=1/C=0]= 0.5242214532871973**

**P[barclay=0/C=0]= 0.4757785467128028**

**TrainingAccuracy = 81.125%**

**Testing Accuracy = 77.83251231527095%**