Fundamentals of Data Science

Semester B 20-21

Tutorial 7

1. For the loan default prediction problem in the lecture notes, verify the class conditional probability values of the categorical attributes Home Owner and Marital Status, and also the sample mean and variance values of the attribute Annual Income for the class Yes.

2. We consider the data set shown in the following table.

Record	A	B	C	Class
1	F	F	F	+
2	F	F	T	-
3	F	T	T	-
4	F	T	T	-
5	F	F	F	+
6	T	F	F	+
7	T	F	T	-
8	T	F	T	-
9	T	T	T	+
10	T	F	T	+

   a. Estimate the class-conditional probabilities $P(A|+)$, $P(A|-)$, $P(B|+)$, $P(B|-)$, $P(C|+)$, $P(C|-)$.
   b. Use the estimated probabilities in a. to predict the class label for a test example $(A=F, B=T, C=F)$ using the naïve Bayes approach.