2. (a) Given the example set in Table 2, answer the following questions and show your calculations.
   i) What is the entropy of the training set, H(S)? [4]
   ii) What is the information gain of each of the three attributes? [12]
   iii) Which attribute would ID3 choose as the root node? Explain your choice. [2]

Gender	Age Group	Blood Pressure	**Class Variable**
F	A	Low	Yes
M	A	High	Yes
M	C	High	No
F	B	Low	No
F	B	High	Yes
F	A	Low	No
M	B	High	No
M	C	High	Yes
F	C	Low	No
M	A	High	Yes

ıble 2: A toy dataset with 10 observations (rows), 3 attributes (Gender, Age, Blood Pressure) ıd one target class (Class Variable)

   (b) Explain how the Gaussian Mixture Model algorithm works. [7]