



Jaypee University of Information Technology, Wanknaghat
Department of Computer Science Engineering & IT
Machine Learning
Assignment-1 (Spring-2022)

Note: Date of Submission: 3rd April 2022.

Consider the following dataset, we want to decide whether the customer is likely to buy computer or not for the 14 records, where

Class P = 9: buys_computer = “yes”

Class N = 5: buys_computer = “no”

Dataset is as:

Age	Income	Student	Credit_rating	Buys_computer
Youth	High	No	Fair	No
Youth	High	No	Excellent	No
Middle_aged	High	No	Fair	Yes
Senior	Medium	No	Fair	Yes
Senior	Low	Yes	Fair	Yes
Senior	Low	Yes	Excellent	No
Middle_aged	Low	Yes	Excellent	Yes
Youth	Medium	No	Fair	No
Youth	Low	Yes	Fair	Yes
Senior	Medium	Yes	Fair	Yes
Youth	Medium	Yes	Excellent	Yes
Middle_aged	Medium	No	Excellent	Yes
Middle_aged	High	Yes	Fair	Yes
Senior	Medium	No	Excellent	No

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Construct a decision tree using all the three methods (“Information gain and entropy”, “Gini indexing” & “Gain ratio”)

Also discuss the advantages of each and every approach of constructing the decision tree.