

National University of Computer and Emerging Sciences, Lahore Campus



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Program: BS(Computer Science)
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Section:
Exam: Quiz 3

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Instruction/Notes:

Given the training data what attribute will be chosen as root node? Using Gini as impurity measure.

Training Data

Instance #	Att1	Att2	Att3	Class
1	1	2	2	1
2	2	2	2	1
3	1	2	2	1
4	1	2	2	1
5	1	1	2	2
6	2	1	2	2
7	1	1	2	2
8	2	1	2	2

$$\text{Gini}(t) = 1 - \sum_{i=0}^{c-1} [p(i|t)]^2, \quad (4.4)$$

Where C is number of classes, and $P(i|t)$ is fraction of records that belong to class i at node t .

Question 2 Classify the following test instance using kNN and training data given in above table. Use $K=3$

2	1	2	2
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Note: All the attributes are binary and symmetric

