:::DATA::: QUIZ1

POSITIVE

( 0 , 0 , 1 , 0 )

( 1 , 0 , 1 , 0 )

( 1 , 1 , 1 , 0 )

( 1 , 1 , 0 , 1 )

( 1 , 0 , 1 , 1 )

( 1 , 1 , 1 , 1 )

NEGATIVE

( 1 , 0 , 0 , 0 )

( 0 , 1 , 1 , 0 )

( 1 , 0 , 0 , 1 )

( 0 , 1 , 0 , 1 )

( 0 , 0 , 1 , 1 ) Calculate to 3 decimal places

1. Calculate the entropy of the following set of examples to 3 decimals places:
2. Given the following set of examples of points (x1, x2, x3, x4), if we split the data on the x1 attribute, what is the entropy of the set where x1=0.
3. Given the following set of examples of points (x1, x2, x3, x4), if we split the data on the x1 attribute, what is the entropy of the set where x1=1.
4. Given the following set of examples of points (x1, x2, x3, x4), if we split the data on the x1 attribute, what is the information gain using entropy.
5. Given the following set of examples of points (x1, x2, x3, x4), if we split the data on the x2 attribute, what is the entropy of the set where x2=0.
6. Given the following set of examples of points (x1, x2, x3, x4), if we split the data on the x2 attribute, what is the entropy of the set where x2=1.
7. Given the following set of examples of points (x1, x2, x3, x4), if we split the data on the x2 attribute, what is the information gain using entropy.
8. Given the following set of examples of points (x1, x2, x3, x4), which is the better attribute to use first in our Decision Tree, x1 or x2?
9. Calculate the Gini of the following set of examples of points (x1, x2, x3, x4) to 3 decimals places:
10. Given the following set of examples of points (x1, x2, x3, x4), if we split the data on the x1 attribute, what is the Gini of the set where x1=0.
11. Given the following set of examples of points (x1, x2, x3, x4), if we split the data on the x1 attribute, what is the Gini of the set where x1=1.
12. Given the following set of examples of points (x1, x2, x3, x4), if we split the data on the x1 attribute, what is the information gain using Gini.
13. Given the following set of examples of points (x1, x2, x3, x4), if we split the data on the x2 attribute, what is the Gini of the set where x2=0.
14. Given the following set of examples of points (x1, x2, x3, x4), if we split the data on the x2 attribute, what is the Gini of the set where x2=1.
15. Given the following set of examples of points (x1, x2, x3, x4), if we split the data on the x2 attribute, what is the information gain using Gini.
16. Given the following set of examples of points (x1, x2, x3, x4), which is the better attribute to use first in our Decision Tree, x1 or x2?
17. Between 0.989 and 0.999
18. Between 0.806 and 0.816
19. Between 0.858 and 0.868
20. Between 0.145 and 0.155
21. Between 0.995 and 1.005
22. Between 0.966 and 0.976
23. Between 0.002 and 0.012
24. X1
25. Between 0.491 and 0.501
26. Between 0.37 and 0.38
27. Between 0.403 and 0.413
28. Between 0.095 and 0.105
29. Between 0.495 and 0.505
30. Between 0.475 and 0.485
31. Between 0 and 0.01
32. X1