Question 2

Part a

1) 4.0 GPA - P, the data match the decision tree
2) 3.9 GPA - no publication - rank 1 - N, the data don't match the decision tree
3) 3.9 GPA - no publication - rank 2 - P, the data match the decision tree

    8) GPA 3.4 - No publication - Rank 1 University - N, data matches the tree
9) GPA 3.2 - N, data matches the tree
10) GPA 3.1 - N, data matches the tree
11) GPA 3.1 - N, data matches the tree
12) GPA 3.0 - N, data matches the tree

Part b

Published

$$I(Yes, No) = -\frac{5}{12}\log_2(\frac{5}{12}) - (\frac{7}{12})\log_2(\frac{7}{12}) = .9799 \qquad (1)$$

Recommendations

$$I(Good, Normal) = -\frac{8}{12}\log_2(\frac{8}{12}) - (\frac{4}{12})\log_2(\frac{4}{12}) = .9183 \qquad (2)$$