Machine Learning Assignment 59

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Problem 1

$$20A, 20B; \quad \text{impurity} = \frac{2*1}{4} = \frac{1}{2}$$

$$\text{goodness of split} = \frac{1}{2} - \frac{19*3*2}{22^2} \cdot \frac{17*2}{18^2}$$

$x_1 \leq 5.75$
$x_1 > 5.75$

$$1A, 17B; \quad \text{impurity} = \frac{34}{324}$$

$$\text{goodness of split} = \frac{34}{324}$$

$$19A, 3B; \quad \text{impurity} = \frac{114}{484}$$

$$\text{goodness of split} = \frac{114}{484}$$

$x_2 > 3.8$
$x_2 \leq 3.8$
$x_2 > 2.8$
$x_2 \leq 2.8$

$1A$
impurity $= 0$

$17B$
impurity $= 0$

$3B$
impurity $= 0$

$19A$
impurity $= 0$