8.

**Root Node:**

**Left Branch (A = 0):**

Gini Impurity = 0 for both.

**Right Branch (A = 1):**

**Left Branch (B = 0):**

Gini Impurity = 0 for both

Right Branch (B = 1):

Gini Impurity = 0 for both

**Gini Gain at each Split:**

**Split on A:** Gini Gain = Gini Impurity (Parent) - (Weighted Average of Child Gini Impurities)

(perfect split)

**Split on B** (in "Right Branch - A = 1"):

(perfect split)

A diagram of a tree

Description automatically generated