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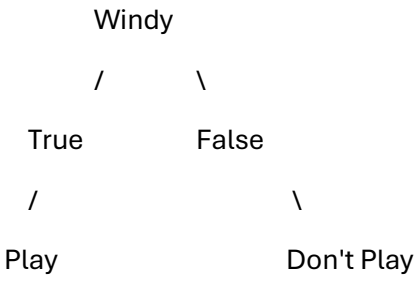
NIM :A11.2022.14483

1. **Hitung Entropy untuk setiap atribut:**
   - **Entropy Total = -(3/14)*log2(3/14) - (8/14)*log2(8/14) - (3/14)*log2(3/14) = 0.9403**
   - **Entropy Outlook:**
     - **Entropy (Sunny) = -(2/5)*log2(2/5) - (3/5)*log2(3/5) = 0.9710**
     - **Entropy (Overcast) = 0 (karena semua bermain)**
     - **Entropy (Rainy) = -(2/5)*log2(2/5) - (3/5)*log2(3/5) = 0.9710**
     - **Entropy Outlook = (5/14)*0.9710 + (4/14)*0 + (5/14)*0.9710 = 0.6939**
   - **Entropy Temperature:**
     - **Entropy (Hot) = -(2/6)*log2(2/6) - (4/6)*log2(4/6) = 0.9183**
     - **Entropy (Mild) = -(4/6)*log2(4/6) - (2/6)*log2(2/6) = 0.9183**
     - **Entropy (Cool) = 0 (karena semua bermain)**
     - **Entropy Temperature = (6/14)*0.9183 + (6/14)*0.9183 + (2/14)*0 = 0.8492**
   - **Entropy Humidity:**
     - **Entropy (High) = -(7/10)*log2(7/10) - (3/10)*log2(3/10) = 0.8812**
     - **Entropy (Normal) = 0 (karena semua bermain)**
     - **Entropy Humidity = (10/14)*0.8812 + (4/14)*0 = 0.6294**
   - **Entropy Windy:**
     - **Entropy (True) = -(3/9)*log2(3/9) - (6/9)*log2(6/9) = 0.9183**
     - **Entropy (False) = -(5/5)*log2(5/5) = 0**
     - **Entropy Windy = (9/14)*0.9183 + (5/14)*0 = 0.6051**
2. **Hitung Gain untuk setiap atribut:**
   - **Gain(Outlook) = Entropy(Total) - Entropy(Outlook) = 0.9403 - 0.6939 = 0.2464**
   - **Gain(Temperature) = Entropy(Total) - Entropy(Temperature) = 0.9403 - 0.8492 = 0.0911**
   - **Gain(Humidity) = Entropy(Total) - Entropy(Humidity) = 0.9403 - 0.6294 = 0.3109**
   - **Gain(Windy) = Entropy(Total) - Entropy(Windy) = 0.9403 - 0.6051 = 0.3352**

     3. Berdasarkan nilai Gain, atribut "Windy" memiliki Gain tertinggi, sehingga akan menjadi akar pohon keputusan.


Windy
True
False
Play
Don't Play