



Nome : **Angemydelson Saint-Bert**
Matrícula : **2121101002**
Prof : **Felipe Grando**
Disciplina : **Inteligência Artificial**

1)

N1

$p = 0 \quad q = 0 \quad (0 * -1) + (0 * 1) + 0 = 0$	$f(0) = 0$
$p = 0 \quad q = 1 \quad (0 * -1) + (1 * 1) + 0 = 1$	$f(1) = 1$
$p = 1 \quad q = 0 \quad (1 * -1) + (0 * 1) + 0 = -1$	$f(-1) = 0$
$p = 1 \quad q = 1 \quad (1 * -1) + (1 * 1) + 0 = 0$	$f(0) = 0$

N2

$p = 0 \quad q = 0 \quad (0 * 1) + (0 * -1) + 2 = 2$	$f(0) = 2$
$p = 0 \quad q = 1 \quad (0 * 1) + (1 * -1) + 2 = 1$	$f(1) = 1$
$p = 1 \quad q = 0 \quad (1 * 1) + (0 * -1) + 2 = 1$	$f(-1) = 3$
$p = 1 \quad q = 1 \quad (1 * 1) + (1 * -1) + 2 = 0$	$f(0) = 2$

N3

$p = 0 \quad q = 2 \quad (0 * 1) + (2 * 0) + 3 = 3$	$f(0) = 3$
$p = 1 \quad q = 1 \quad (1 * 1) + (1 * 0) + 3 = 4$	$f(1) = 4$
$p = 0 \quad q = 3 \quad (0 * 1) + (3 * 0) + 3 = 3$	$f(-1) = 3$
$p = 0 \quad q = 2 \quad (0 * 1) + (2 * 0) + 3 = 3$	$f(0) = 3$

N4

$p = 0 \quad q = 2 \quad (0 * -2) + (2 * 1) + 1 = 3$	$f(0) = 3$
$p = 1 \quad q = 1 \quad (1 * -2) + (1 * 1) + 1 = 0$	$f(1) = 0$
$p = 0 \quad q = 3 \quad (0 * -2) + (3 * 1) + 1 = 4$	$f(-1) = 4$
$p = 0 \quad q = 2 \quad (0 * -2) + (2 * 1) + 1 = 3$	$f(0) = 3$

N5

$p = 3 \quad q = 3 \quad (3 * -1) + (3 * 2) - 1 = 2$	$f(0) = 2$
$p = 4 \quad q = 0 \quad (4 * -1) + (0 * 2) - 1 = -5$	$f(1) = 0$
$p = 3 \quad q = 4 \quad (3 * -1) + (4 * 2) - 1 = 4$	$f(-1) = 4$
$p = 3 \quad q = 3 \quad (3 * -1) + (3 * 2) - 1 = 2$	$f(0) = 2$

2)

$$Gini\ Chuvoso = 1 - \sum p_i = 1 - ((2 \div 3)^2) - ((1 \div 3)^2) = 0.44$$

$$Gini\ Ensolarado = 1 - \sum p_i = 1 - ((0 \div 3)^2) - ((3 \div 3)^2) = 0$$

$$Gini\ Nublado = 1 - \sum p_i = 1 - ((2 \div 4)^2) - ((2 \div 4)^2) = 0.5$$

$$Gini\ (S, Clima) = ((3 \div 10) * 0.44) + ((3 \div 10) * 0) + ((4 \div 10) * 0.5) = 0.33$$

$$Gini\ Frio = 1 - \sum p_i = 1 - ((3 \div 3)^2) - ((0 \div 3)^2) = 0$$

$$Gini\ Agradável = 1 - \sum p_i = 1 - ((3 \div 4)^2) - ((1 \div 4)^2) = 0.38$$

$$Gini\ Calor = 1 - \sum p_i = 1 - ((0 \div 3)^2) - ((3 \div 3)^2) = 0$$

$$Gini\ (S, Temperatura) = ((3 \div 10) * 0) + ((4 \div 10) * 0.38) + ((3 \div 10) * 0) = 0.15$$

$$Gini\ Alta = 1 - \sum p_i = 1 - ((2 \div 3)^2) - ((1 \div 3)^2) = 0.44$$

$$Gini\ Baixa = 1 - \sum p_i = 1 - ((1 \div 3)^2) - ((2 \div 3)^2) = 0.44$$

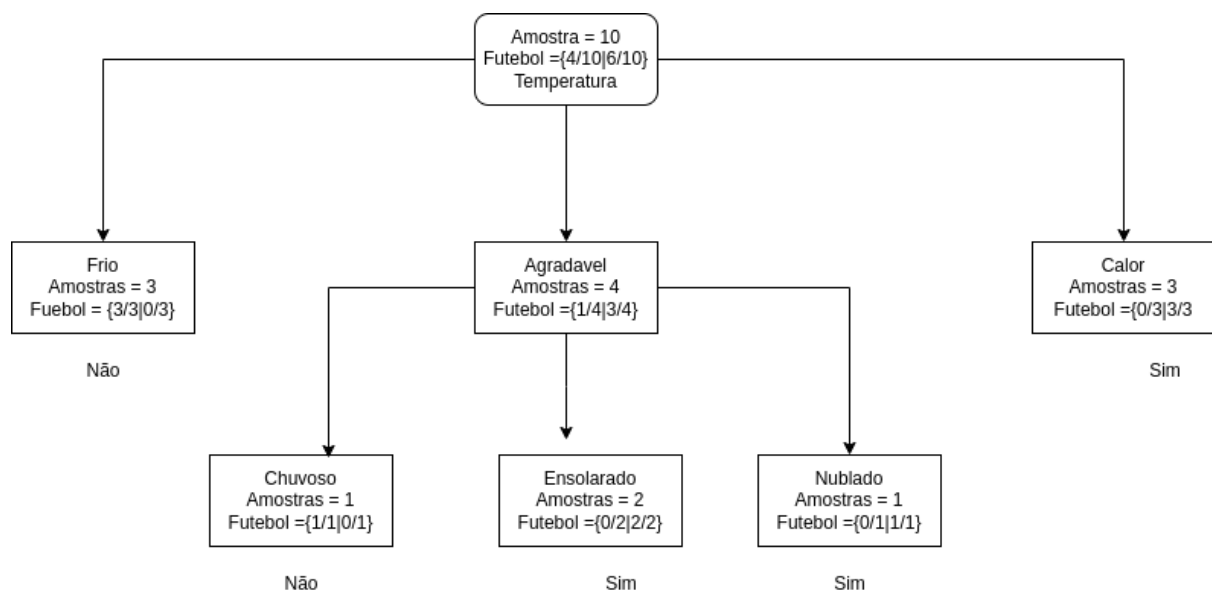
$$Gini\ Normal = 1 - \sum p_i = 1 - ((1 \div 4)^2) - ((3 \div 4)^2) = 0.38$$

$$Gini\ (S, Humildade) = ((3 \div 10) * 0.44) + ((3 \div 10) * 0.44) + ((4 \div 10) * 0.38) = 0.41$$

$$Gini\ Intenso = 1 - \sum p_i = 1 - ((3 \div 5)^2) - ((2 \div 5)^2) = 0.48$$

$$Gini\ Fraco = 1 - \sum p_i = 1 - ((1 \div 5)^2) - ((4 \div 5)^2) = 0.32$$

$$Gini\ (S, Vento) = ((5 \div 10) * 0.48) + ((5 \div 10) * 0.32) = 0.4$$



Chuvoso Frio Baixa Fraco = Não
Ensolarado Agradável Alta Intenso = sim
Nublado Calor Baixa Fraco = Sim
Nublado Agradável Normal Intenso = Sim