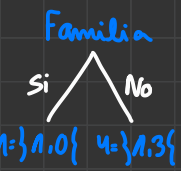
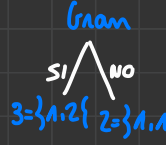
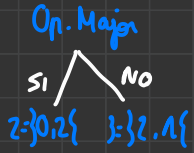
Problema 4

Id	Operació Major	Familia	Gran	Enviar a casa
1	Si	No	No	No
2	Si	No	Si	No
3	No	No	No	Si
4	No	No	Si	No
5	No	Si	Si	Si







$$E(S, Op.Major) = \frac{2}{5}(-1\log 1) + \frac{3}{5}\left(-\frac{2}{3}\log_2\frac{2}{3} - \frac{1}{3}\log_2\frac{1}{3}\right) = 0'56$$

$$E(S, Gran) = \frac{3}{5}\left(-\frac{1}{3}\log_2\frac{1}{3} - \frac{2}{3}\log_2\frac{2}{3}\right) + \frac{2}{3}\left(-\frac{1}{2}\log_2\frac{1}{2} - \frac{1}{2}\log_2\frac{1}{2}\right) = 0'96$$

$$E(S, Fam) = \frac{1}{5}(-1\log_2 1) + \frac{4}{5}\left(-\frac{1}{4}\log_2\frac{1}{4} - \frac{3}{4}\log_2\frac{3}{4}\right) = 0'64$$

$$G(S, OpMajor) = 1 - 0'56 = 0'44 \leftarrow$$

$$G(S, Gran) = 1 - 0'96 = 0'04$$

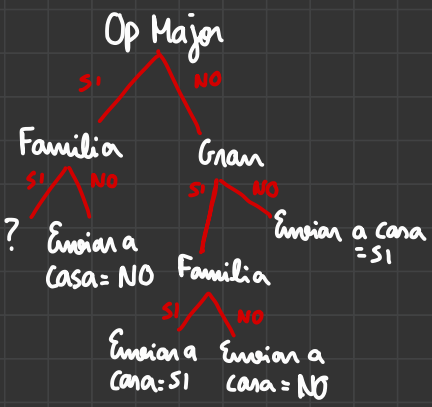
$$G(S, Fam) = 1 - 0'64 = 0'36$$

$$E(Op\,Maj_{SI}, Fam) = 1(-1\log 1) = 0$$

$$E(Op\,Maj_{SI}, Gran) = \frac{1}{2}\left(-\frac{1}{2}\log_2\frac{1}{2}\right) + \frac{1}{2}\left(-\frac{1}{2}\log_2\frac{1}{2}\right) = 0'5$$

$$G(Op\,Maj_{SI}, Fam) = 1 - 0 = 1 \leftarrow$$

$$G(Op\,Maj_{SI}, Gran) = 1 - 0'5 = 0'5$$



$$E(Op\,Maj_{NO}, Fam) = \frac{1}{3}(-1\log_2 1) + \frac{2}{3}\left(-\frac{1}{2}\log_2\frac{1}{2} - \frac{1}{2}\log_2\frac{1}{2}\right) = 0'67$$

$$E(Op\,Maj_{NO}, Gran) = \frac{2}{3}\left(-\frac{1}{2}\log_2\frac{1}{2} - \frac{1}{2}\log_2\frac{1}{2}\right) + \frac{1}{2}(-1\log_2 1) = 0'67$$

$$G(Op\,Maj_{NO}, Fam) = 1 - 0'67 = 0'33$$

$$G(Op\,Maj_{NO}, Gran) = 1 - 0'67 = 0'33$$

Pacients Susceptibles

- No Operació Major + No Gran
- No Operació Major + Gran + Familia