

Exercise 2.1 Probabilities are sensitive to the form of the question that was used to generate the answer

(a)

C1	C2
B	B
B	G
G	B
G	G

If the neighbor has any boys, there is only a chance to the first of the three rows in the above table. In this situation, the probability that one child is a girl is $\frac{2}{3}$.

(b)

$$\begin{aligned}
 P(Run = C1) \cdot P(C2 = G | Run = C1) + P(Run = C2) \cdot P(C1 = G | Run = C2) &= \frac{1}{2} \cdot \frac{1}{2} \\
 &= \frac{1}{2}
 \end{aligned}$$