An experiment consists of tossing three fair (not weighted) coins, except one of the three coins has a head on both sides. Compute the probability of obtaining 2 heads.

**Solution:** The sample space is

\[ S = \{HHH, HTH, THH, TTH\}, \]

so \( n(S) = 4 \). The event that 2 heads turn up is

\[ E = \{HTH, THH\}, \]

so \( n(E) = 2 \). We make the assumption that each simple event is equally likely. Then

\[ P(E) = \frac{n(E)}{n(S)} = \frac{2}{4} = \frac{1}{2}. \]

**Remark.** I also gave full credit to those who found the probability of obtaining at least 2 heads. Call that event \( F \). Then

\[ F = \{HHH, HTH, THH\}, \]

so

\[ P(F) = \frac{n(F)}{n(S)} = \frac{3}{4}. \]