Problem

In a single toss of 2 fair (evenly-weighted) six-sided dice, find the probability that their sum will be at most 9.

Solution

There are 36 possibile combinations of digits on two dice.

$$\Omega = 6^2 = 36$$

It is easier to list all possibl values for the complementary event (when sum is greater than 9).

Die 1	Die 2
4	6
5	5
5	6
6	4
6	5
6	6

There are 6 possibile combinations of values with sum greater than 9. Therfore there are $36 - 6 = 30$ possibile combinations of values with sum at most 9.

$$P(A) = \frac{A}{\Omega} = \frac{30}{36} = \frac{5}{6}$$