Itineraries
Solution example

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Exercise 1 *You take part in an urban orienteering race, where you have to visit three out of five posts in any order. The posts are, say, Fjellstuen, the church at Aspya, Kremmergrden, Ggaten, and Byparken.*

How many iteneraries are possible.

1 Solution

We are given a set P of five posts. The required itinerary is a list of three posts from P, also known as a 3-permutation on P. Let's call the set of all valid itineraris L.

The standard formula for counting k-permutations on an n-set gives us that

$$|L| = \frac{n!}{(n-k)!} = \frac{5!}{2!} = \frac{120}{2} = 60.$$