

Jeremy Kun gives a canonical bijection between $\binom{n+1}{2}$ and a discrete triangle of length n , as seen in Figure 1.

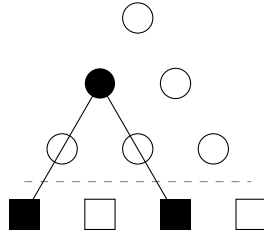


Figure 1: Bijection that maps a point on the triangle with side length 3 to a 2-subset of $[3 + 1]$.

Question. Is there a similar “projection” that bijects a point on the discrete tetrahedron to a 3-subset of $[n + 2]$?

Note. Misha Lavrov gives a potential function to the question on Math Stack Exchange.
(<https://math.stackexchange.com/a/2468687/121988>)

Related.

1. More generally is there a bijection from the k -simplex to a k -subset of $[n + k - 1]$?