

Hint for Problem 51-b

Given a path from $(0, 0)$ to (n, n) which touches or crosses the line $y = x + 1$, how can you modify the part of the path from $(0, 0)$ to the first touch of $y = x + 1$ so that the modified path starts instead at $(-1, 1)$? The trick is to do this in a systematic way that will give you your bijection.