



Math for the people, by the people.

example of bijection

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Owner	juanman (12619)
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It is known that the Cartesian product of numerable sets are numerable, then the product $\mathbb{N} \times \mathbb{N}$ is. Here we give an explicit mapping which does the task:

$$(n, m) \mapsto m + \frac{(n + m)(n + m + 1)}{2}$$

It is almost easy to check bijectivity and curious how the elements of $\mathbb{N} \times \mathbb{N}$ are labeled.