Name: _____

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1. We call a partition $\{P_1, \ldots, P_k\}$ of $[n]$ nice iff $(j+1) \notin P_i$ for every $i \in [k]$ and $j \in P_i$.

   Prove that number of nice partitions is equal to $B(n-1)$.

2. How many different 6-digit numbers have sum of their digits at most 47?

3. How many ways to put n indistinguishable balls into k different boxes if we have to put at least a_i balls into the box with number i.