Problem 3 (due Monday, October 12)

An outcome of flipping a coin \$n\$ times is called \$k\$-lucky if it contains a pattern which is repeated \$k\$ times in a row. For example, the outcome THHTHTHTH (T stands for "tales" and H for "heads") of flipping a coin 10 times is 3-lucky since HT appears 3 times in a row. Let \$P\_n\$ be the probability that flipping a coin \$n\$ times is \$6\$-lucky. Find \$t\$ as small as you can so that \$P\_n<t\$ for all \$n\$.

Only one solution was received, form Yuqiao Huang. His solution and some additional comments are contained in the following link Solution

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