

New Records for Stanley-Wilf Limits

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We provide examples for patterns q for which the value of the Stanley-Wilf limit $L(q)$ is smaller (resp. larger) than any previously known values. The exact values of $L(q)$ are computed. Generalizations are given. For the lowest value, we show that $L(3124675) = 32$, which improves the mentioned lowest value of $L(3124567) = ((\sqrt{8}+3)^2 = 17+6\sqrt{8}) = 33.97$. For the highest value, we show that $L(1324657) = 4a$, where $a = L(1324) \geq 9.35$. This beats the previously known higher value of $L(1324567) = (\sqrt{a}+3)^2 = a+9+6\sqrt{a}$ as can be easily seen by comparing the square roots of the two limits.

Both results will be generalized to longer patterns.