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bound on the Krull dimension of polynomial rings

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If A is a commutative ring, and dim denotes Krull dimension, then

$$\dim(A) + 1 \leq \dim(A[x]) \leq 2\dim(A) + 1.$$

It is known (see [?],[?]) that for any $k \geq 0$ and n with $k+1 \leq n \leq 2k+1$, there exists a ring A such that $\dim A = k$ and $\dim A[x] = n$.

References

[Seid] A. Seidenberg, *A note on the dimension theory of rings.* Pacific J. of Mathematics, Volume 3 (1953), 505-512.

[Seid2] A. Seidenberg, *On the dimension theory of rings (II).* Pacific J. of Mathematics, Volume 4 (1954), 603-614.