Minor misstatement in Example 11(3).

It is claimed that an ideal which has bounded index of nilpotency 2 is automatically nilpotent. This is false, for in the ring $R = \mathbb{F}_2[x_1, x_2, \ldots \,:\, x_i^2 = 0]$ the ideal $\sum_{i=1}^{\infty} Rx_i$ has bounded index of nilpotency 2, but it not nilpotent. What we should have said is that a *finitely generated* right ideal of bounded index of nilpotency 2 is always nilpotent (which makes the example we gave optimal for finitely generated right ideals).

Fixable error in the proof of Proposition 16.

First, the definition of $A_{I,m}$ is unclear. We should let $A_{I,m}$ be the set of elements of R which can occur as the coefficient in degree $\leq m$ for some polynomial in I (of unrestricted degree). It is easy to see that the $A_{I,m}$ form an increasing chain of right ideals in R, when I is a right ideal in $R[x]$.

In the first half of the proof, it should be noted that the other summands besides α live in the ideal (not the *right* ideal) generated by the $a_{i,t}$ for $i < s$, but then the induction still goes through after making the necessary changes to the induction assumption. (We may as well expand $A_{I,m}$ to the two-sided ideal generated by the appropriate coefficients.)

In the second half of the proof, more needs to be done to patch this hole, since we cannot expand $A_{I,m}$ as above without possibly destroying the bound on the index of nilpotence. Instead, in the inductive step we have that $a^n = \sum_\ell \alpha_\ell a_{i_\ell} \beta_\ell$ with $\alpha_\ell, \beta_\ell \in R$ and $i_\ell < s$. By inductive hypothesis, there is some bound $N \geq 1$ on the nilpotence index of $a_i R$, for any $i < s$, depending only on n and s. Thus, a right ideal of the form $\alpha_\ell a_{i_\ell} \beta_\ell R$ is nil with index bounded by $N+1$. Further, the number of terms ℓ is bounded by a function of s and n. By Klein's Theorem 3 in "The sum of nil one-sided ideals of bounded index of a ring", we see that $a^n R = \left(\sum_\ell \alpha_\ell a_{i_\ell} \beta_\ell\right) R \subseteq \sum_\ell \left(\alpha_\ell a_{i_\ell} \beta_\ell R\right)$ is nil with index bounded in terms of s and n. (We don't necessarily get k_{s-1}^n using this argument.)