Exercises

E18.11 [1KZ] Difficulty:*. Let $g(z) = \sum_{m=0}^{\infty} b_m z^m$ with non-zero radius of convergence r_g. Let $I_g \subset \mathbb{C}$ be a zero-centered disk of radius less than r_g; so we defined a function $g : I_g \to \mathbb{C}$. We assume $g(0) = 0$ and $g'(0) \neq 0$. Assuming that the inverse $f(y) = g^{-1}(y)$ can be expressed in Taylor series $f(x) = \sum_{n=0}^{\infty} a_n x^n$, compute the coefficients of the series of f starting from those of g.

Solution 1. *[1MO]*