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On Gol'dberg's Constant A_2

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Abstract. Gol'dberg considered the class of functions analytic in the unit disc with unequal positive numbers of zeros and ones there. The maximum modulus of zero- and one-places in this class is non-trivially bounded from below by the universal constant A_2 . This constant determines a fundamental limit of controller design in engineering, and has applications when estimating covering regions for composites of fixed point free functions with schlicht functions. The lower bound for A_2 is improved in this note by considering simultaneously the extremal functions f and $1 - f$ together with their reciprocals.

Keywords. Gol'dberg's second constant, Schottky's Theorem, Borel-Hadamard inequalities, value distribution, holomorphic functions.

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