## EFFICIENT BINARY EXTENDED ALGORITHM USING SGN FUNCTION

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**Abstract.** We present new binary extended algorithms, which work for every integer numbers a and b for which  $a \neq 0$  and  $b \neq 0$ . The approach given here generalizes and optimizes the algorithm given in the monograph of A. Menezes, P. Oorschot and S. Vanstone [3] as well our results from [2] and [1]. These computation ways demonstrate high computational effectiveness especially for long numbers.

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