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Testing Binary Polynomials for Irreducibility

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TESTING BINARY POLYNOMIALS FOR IRREDUCIBILITY

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A binary trinomial is a polynomial with three terms whose coefficients are either zero or one. A polynomial is irreducible if it does not have any nontrivial factors. Irreducible binary trinomials have a number of cryptographic and hardware applications. We have tested close to 5 billion binary polynomials for irreducibility. This computation was the result of combining various techniques from the literature.