Abstract

The theory of Error–correcting codes is eminently indispensable in our life. In this direction, one of the most important developments was the theory of cyclic codes, which is traditionally embedded in the language of ring theory. In this paper our interest to motivate the ring theoretic formulation of coding theory and draw attention to the paths used to determine the cyclic codes generated by the idempotent generators in the ring \( \mathbb{F}_q[x]/(x^N-1) \) of a given length \( N \) over the finite field \( \mathbb{F}_q \) with explicit settings.

References

- E. Prange, Cyclic error-correcting codes with two symbols, AFCRC-TN-57-103 September (1957).

Index Terms

Computer Science

Emerging Trends in Technology

Keywords

Cyclic Codes  Ternary Cyclic Codes