

Line Encoder

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1 Objective

Implement Line coding encoder and scrambler with digital data generator

- Digital data generator: generates completely random data sequence and a random sequence with some fixed sub-sequences like eight or four consecutive zeros. It should also return the longest palindromic sequence in the generated data.
- Line coding schemes to be implemented: NRZ-L, NRZ-I, Manchester, Differential Manchester, AMI.
- Scrambling schemes: B8ZS, HDB3.

Languages and Dependencies used-

- 1.Javascript
 - 2.HTML
 - 3.CSS
 - 4.jQuery
 - 5.Chart.js
 - 6.Bootstrap
 - 7.Google font API
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2 implementation of Various Schemes

We have Implemented NRZ-L, NRZ-I, Manchester, Differential,Manchester, AMI using Javascript.

for finding the longest palindrome in data stream and scrambling (to look for the longest common sequence of string of 0s)

we have used **Manacher's Algorithm**

using this algorithm we computed the longest palindromic Substring in Linear time complexity i.e $O(n)$ and also added description of various algorithms for finding Longest palindromic Substring(LPS)

Print output Signals we used chart.js which is a Library in Javascript with the help of it we successfully created the output graphs of All the conversion schemes.