Name: Shahid Farooq | Mir Tasleem

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Language used : Python

Libraries used in the assignment:

1. Matplotlib
2. Numpy
3. OS library.

We created separate files for different Encoding schemes and then using file operations called the corresponding files according to the user input in the main file.

Different Encoding schemes implemented are NRZ-L, NRZ-I, Manchester, Differential Manchester and AMI(Alternate Mark Inversion). Encoding scheme with scrambling B8ZS and HDB3 are also implemented.

Modulation techniques like PCM and DM are also implemented in different files for analog user input.

When the module is started, user gets a query to select analog or digital data as input. Accordingly the user is asked for the input data and corresponding to that data the required encoding scheme or modulation technique is implemented and the plot is shown to user for that technique. Also for each user input ,longest palindrome in the data stream is output to the user.

Resources Used:

1. ChatGPT (For different library attribute implementation)
2. W3School (For Libraries)
3. Github (For checking different changes and versions).
4. Discussed DM implementation with Abdul Muqsit.