Generating Line Codes in MATLAB

Project

Write a MATLAB function who takes as input parameters:
ibs: A vector which represents input bit stream
tlc: Type of line code: A character variable which can take following values:

`NRZ-L (for NRZ-LEVEL),NRZ-M (for NRZ-MARK), NRZ-S (for NRZ-SPACE), __AMI (for BIPOLAR (AMI)), RZ, bi_RZ (for BIPOLAR RZ), manch (for MANCHESTER (BIPHASE)), and d_man (for DIFF. MANCHESTER)`

Rb: A scalar which shows input bit rate
Also, write a function to plot the generated waveform.

Procedure

One can generate the functions

`lc_gen(ibs,tlc,Rb)`

and

`lc_plot(x,Rb)`

with parameters as defined above. As an example:

```
b=[0 0 1 1 1 0 0 1 1 1 1 0];

x=lc_gen(b,'__AMI',2);

lc_plot(x,2)
```

will generate following waveform (note that each second contains two pulses for $Rb = 2$):

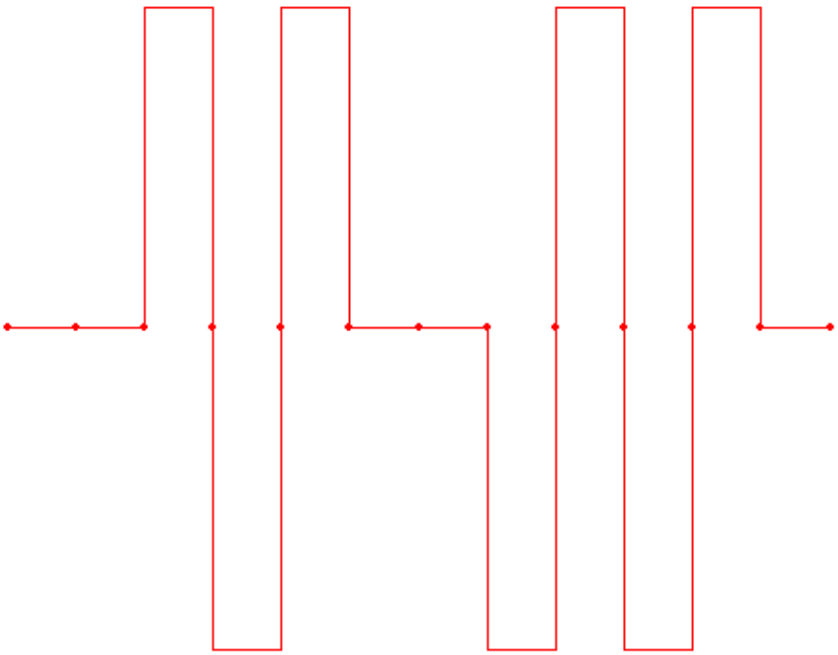

Figure 1: AMI line code for the given input bit stream