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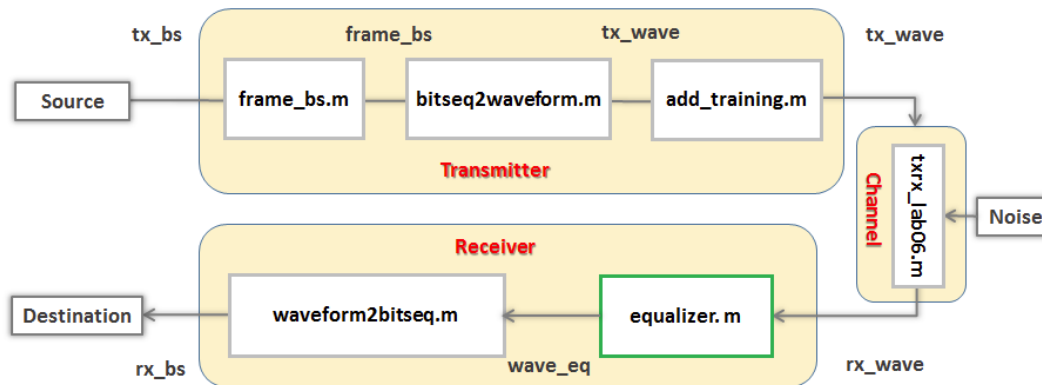
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## LAB 6 TASK 3 - EFFECT OF EQUALIZATION (1/1 point)

In this task, you will compare the eye diagrams of the received waveforms for different bit times (SPB) with and without equalization.



```

1 tx_bs=rand(1,1280)>0.5;      % generate a random bit sequence
2 SPBList = [20 15 10 3];
3
4 for i=1:4,
5
6     % Revise the following code
7     SPB = SPBList(i);
8     a = 0.92;
9     % Do not modify code below
10
11     tx_wave = format_bitseq(tx_bs,SPB); % create waveform following protocol
12     rx_wave = txrx_lab06(tx_wave);      % simulate channel
13     start_ind=find_start_lab06(rx_wave); % find start bit
14     eq_wave = equalizer(rx_wave,a);     % equalize the received waveform
15

```

Correct

```

SPB = SPBList(i);
a = 0.92;

```

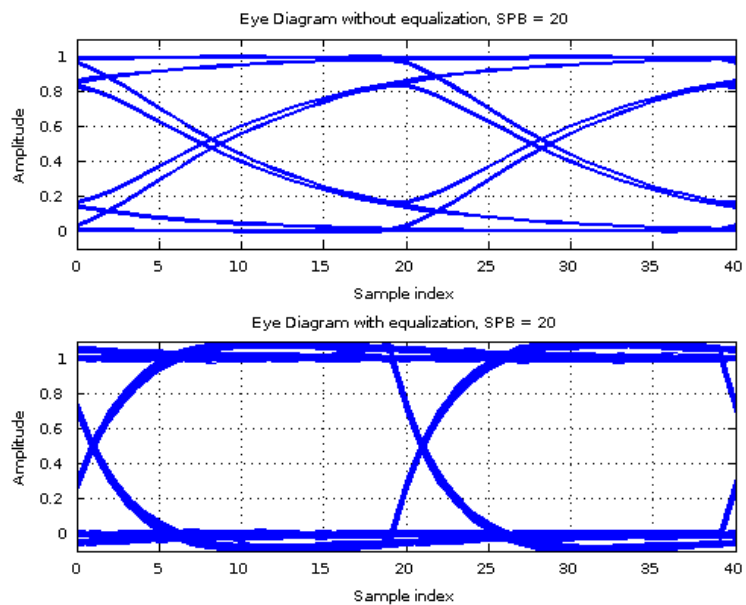


Figure 2

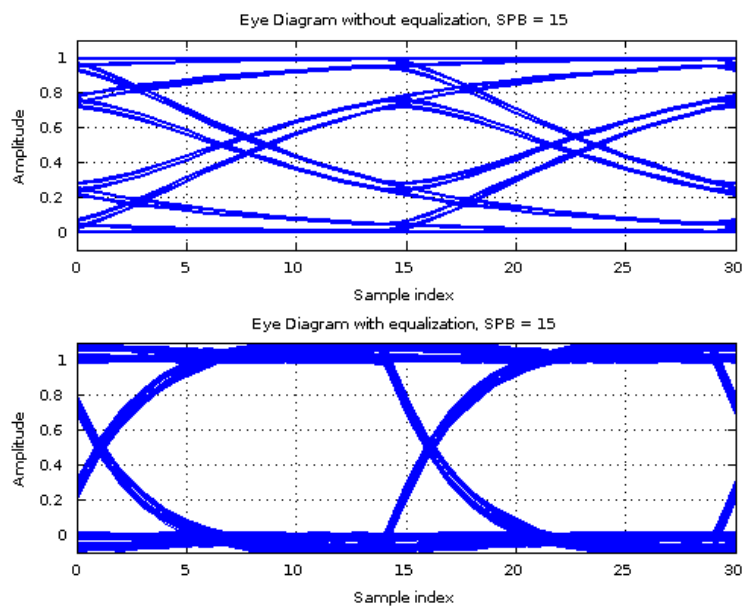


Figure 3

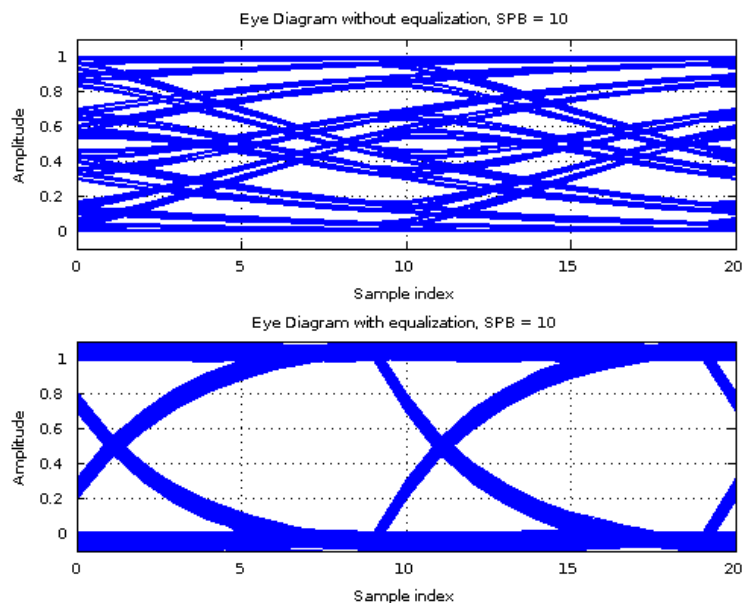
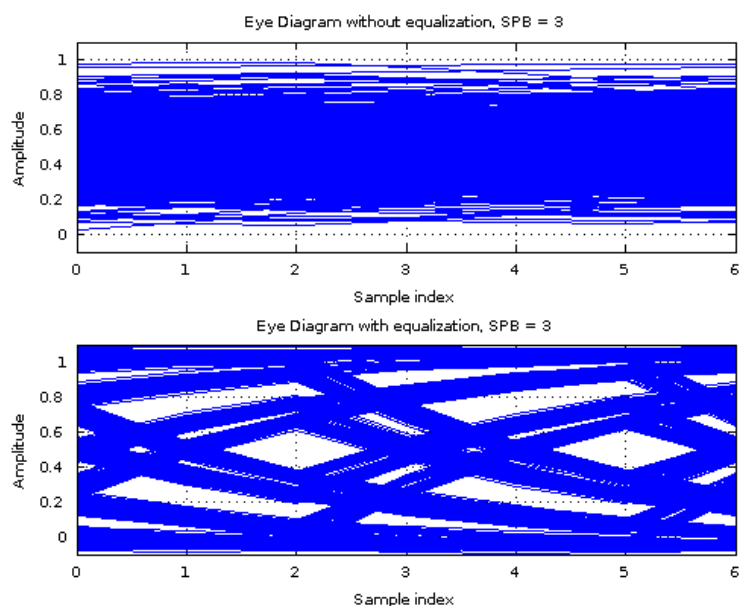


Figure 4



Check

Reset

Save

Hide Answer

You have used 2 of 10 submissions

## INSTRUCTIONS

### Step 1: Run the code as presented

The code in the above window is similar to that in Task 2. You wrote the code for the equalizer in Task 2. This code is now provided for you in this task as the matlab function

**eq\_wave = equalizer(rx\_wave,a)**

which takes in the received waveform **rx\_wave**, applies the equalizer from Task 2 to the waveform with parameter **a**, and returns the result in **eq\_wave**. The vectors **rx\_wave** and **eq\_wave** have the same size.

## Lab 6 Task 3 - Effect of equalization | 7.4 Lab ...

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After you click on the **Run Code** button, MATLAB will return four figures, each containing 2 by 1 array of subplots. All of the subplots will be identical. They are all the eye diagram for the unequalized waveform received when the bit time is 20 samples.

Step 2: Plot the eye diagrams for different bit times

To complete this task, you should modify the code so that it plots the eye diagrams of the unequalized and equalized received waveforms for the four bit times listed in **SPBList**: 20, 15, 10 and 3 samples.

Modify the code under the comments starting with:

% Revise the following code

Step 3: Submit your work

Once you have completed your work, click on the **Check** button to submit your answer.



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