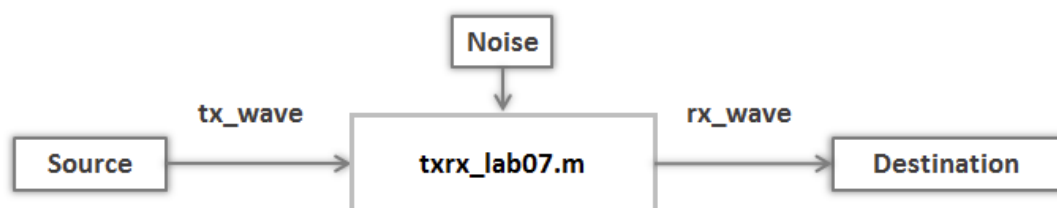


Help

LAB 7 TASK 2 - NOISE SAMPLES

You will investigate the effect of the number of samples on the histogram.

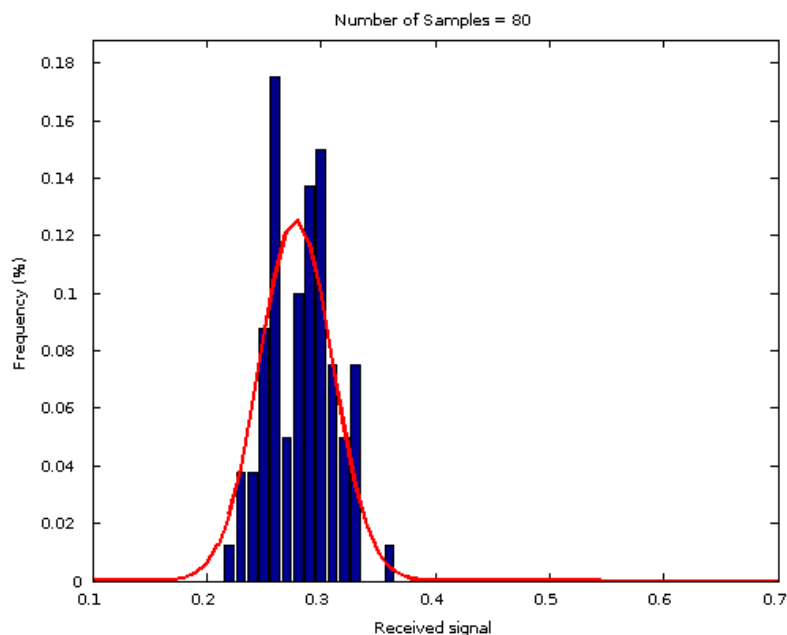


```

1 % Copy your code from Task 1 below
2 SPB = 50; % bit time in samples
3 tx_bs = zeros(1,1280); % generate the all-zero bit sequence
4 tx_wave = format_bitseq(tx_bs,SPB); % create waveform following protocol
5
6 % transmit and receive over noisy channel
7 [rx_wave,start_ind,rx_min,rx_max,sigma] = txrx_lab07(tx_wave);
8 sample_ind = start_ind+2*SPB-1+SPB*[0:1279]; % set subsampling points
9 signal_samples = rx_wave(sample_ind); % get the received samples
10
11 xhist = 0.1:0.01:0.7; % centers of histogram bins
12
13 % Do not modify code above this line
14 nsamp = 80; % number of samples to use for histogram
15 signal_samples_first80bits = signal_samples(1:80);
  
```

Unanswered

Figure 1

[Run Code](#)[Check](#)

INSTRUCTIONS

Step 1: Copy your code from Task 1

Copy your code in Task 1 where you generated the empirical histogram for the additive noise to the blank code window above.

Step 2: Effect of the number of samples

In Task 1, you generated the empirical histogram for the first **nsamp=80** signal samples. Try adjusting the number of samples to **nsamp=200**, **nsamp=500**, **nsamp=1280** and observe the resulting histograms corresponding to different number of signal samples. You do not need to submit your work for this task. Based on your observations, **answer the questions below** for credit.

LAB 7 TASK 2 - QUESTION 1 (1 point possible)

Which one of the following phrases is the correct completion of the sentence that starts "As the number of signal samples used in computing the empirical histogram increases," ?

Please select the correct answer.

- ☐ The values of the histogram converge towards the theoretical predictions.
- ☐ The values of the histogram vary more widely around the theoretical predictions.
- ☐ The mean (center) of the empirical histogram increases.
- ☐ The mean (center) of the empirical histogram decreases.

Help

Check

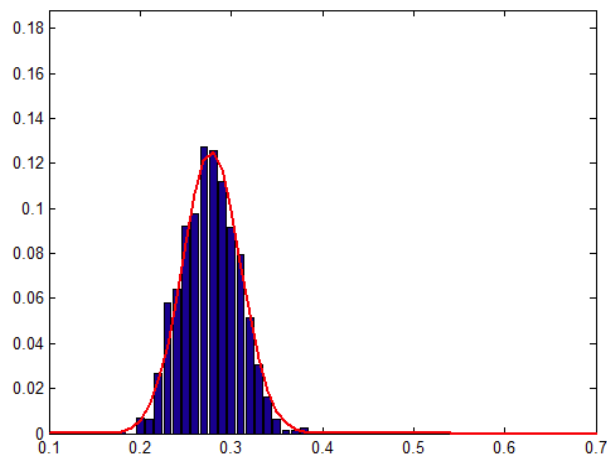
Save

You have used 0 of 2 submissions

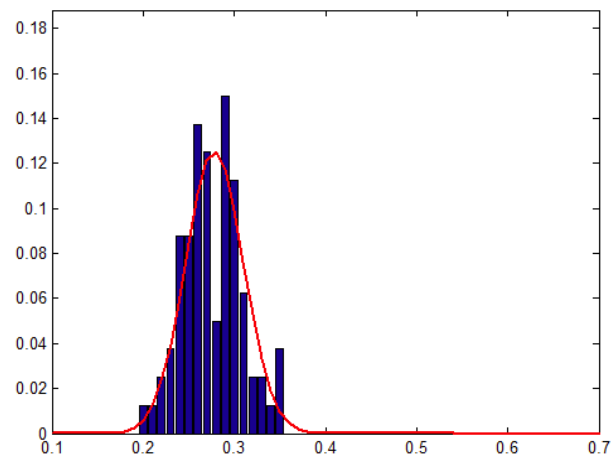
LAB 7 TASK 2 - QUESTION 2 (1 point possible)

Which one of the following empirical histograms (blue bars) is generated with a smaller number of samples? The red line shows the theoretically predicted distribution.

Please select the correct answer.

☐ A☐ B

(A)



(B)

Check

Save

You have used 0 of 2 submissions



world's best universities. Online courses from MITx, HarvardX, BerkeleyX, and many other universities. Topics include...
Lab 7 Task 2 Noise samples 193 Lab 7 Add...
biology, business, chemistry, computer science, economics, finance, electronics, engineering, food and nutrition, history, humanities, law, literature, math, medicine, music, philosophy, physics, science, statistics and more. EdX is a non-profit online initiative created by founding partners Harvard and MIT.

© 2014 edX, some rights reserved.
Terms of Service and Honor Code
Privacy Policy (Revised 4/16/2014)

Contact

<https://courses.edx.org/courses/HKUSTx/EL...>

FAQ

edX Blog

Donate to edX

Jobs at edX



Facebook



Meetup



LinkedIn



Google+