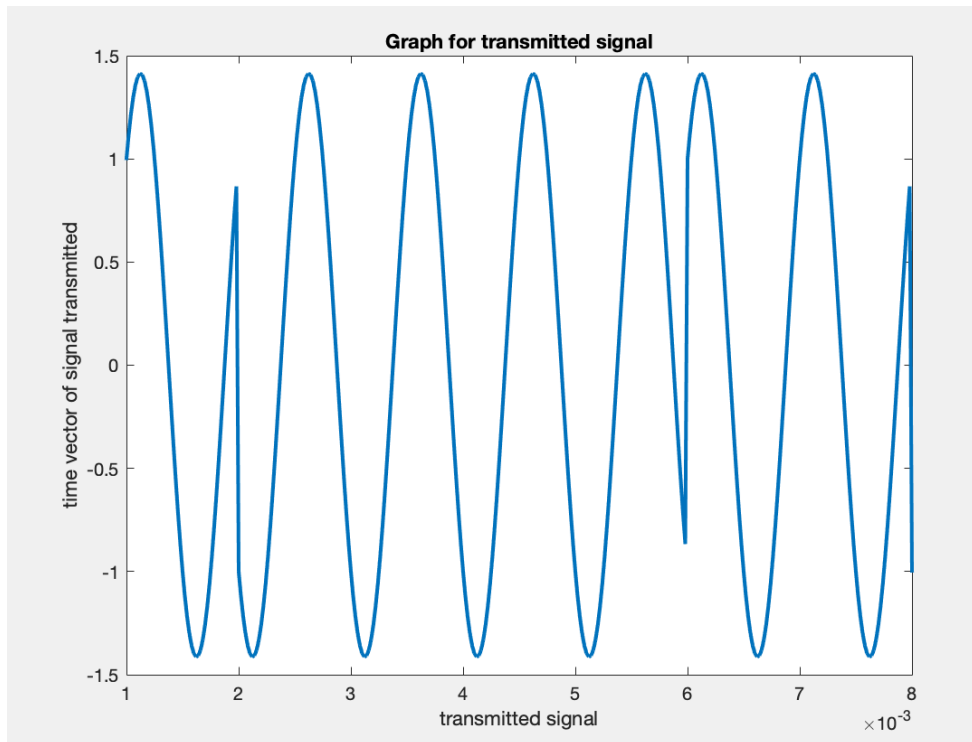


WIRELESS COMMUNICATIONS NETWORK - HOMEWORK 3
ARDRA AYYAPPATH
NUID - 002172340

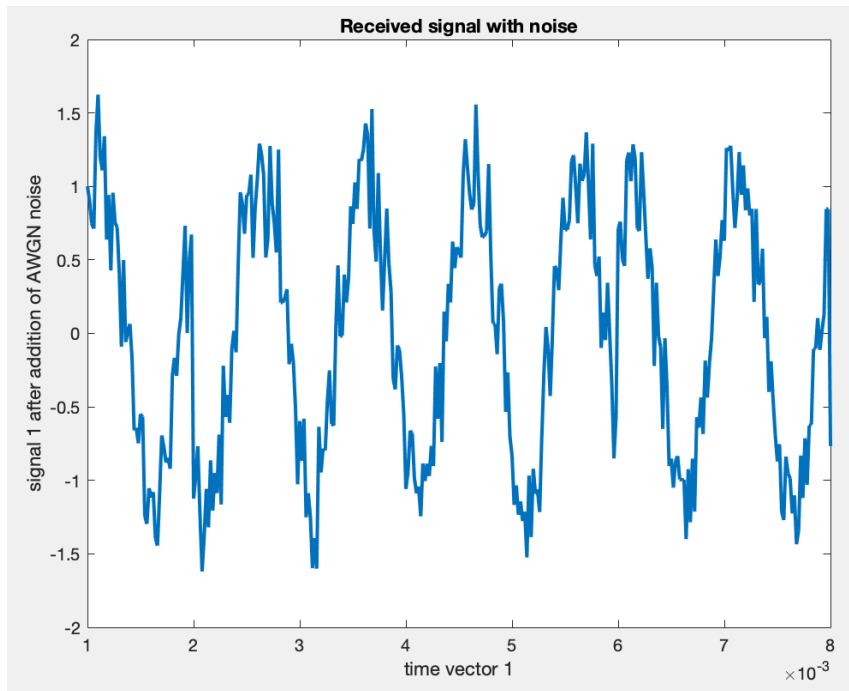
1. Answer in the .m file



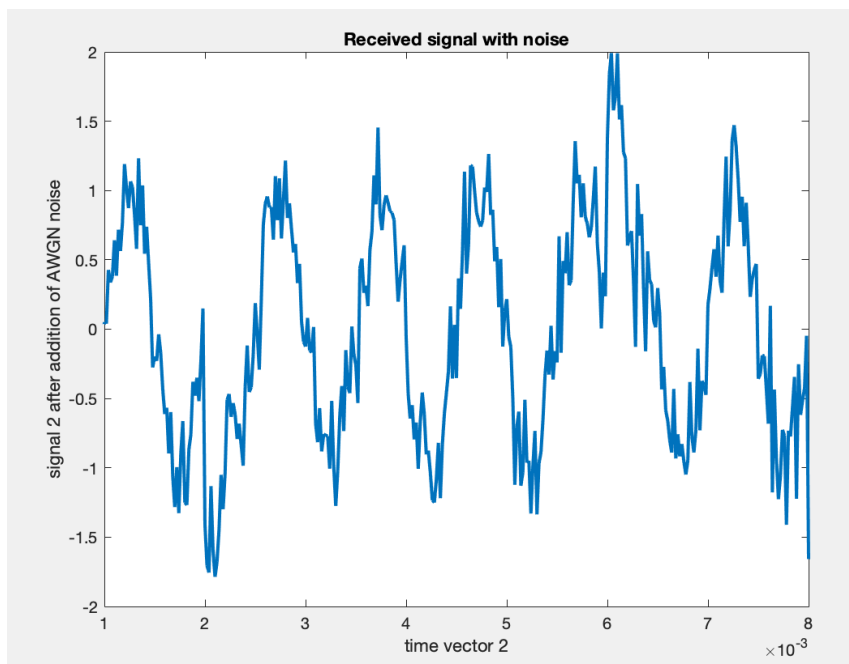
2.

All the received signals are distorted, due to intersymbol interference. But the output from the first impulse function, h_1 is closest to the transmitted signal and h_3 experiences the greatest distortion.

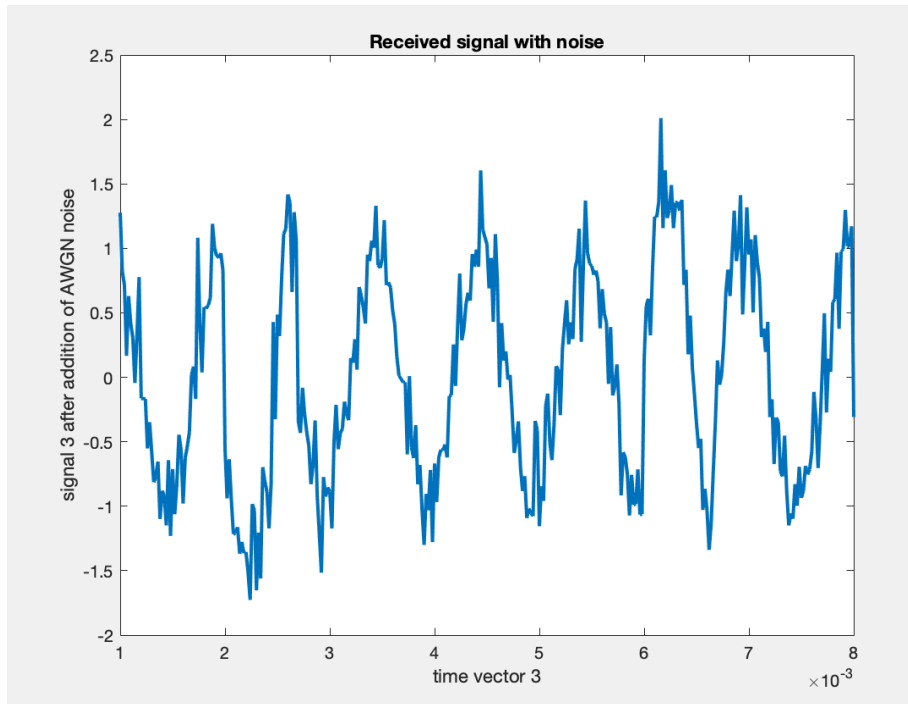
For the first impulse function :



For the second impulse function :



For the third impulse function



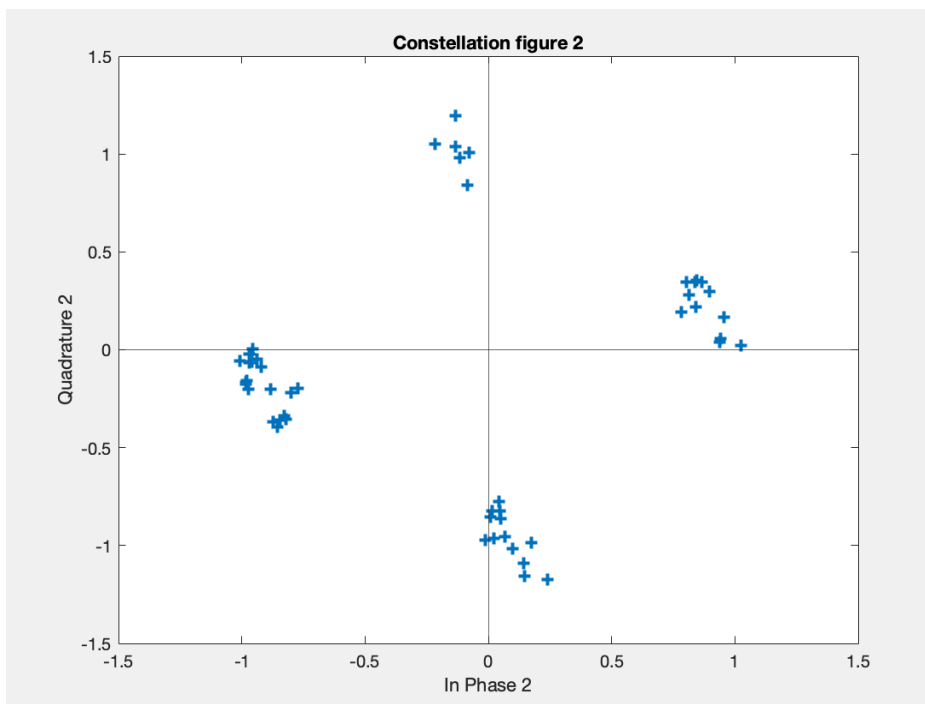
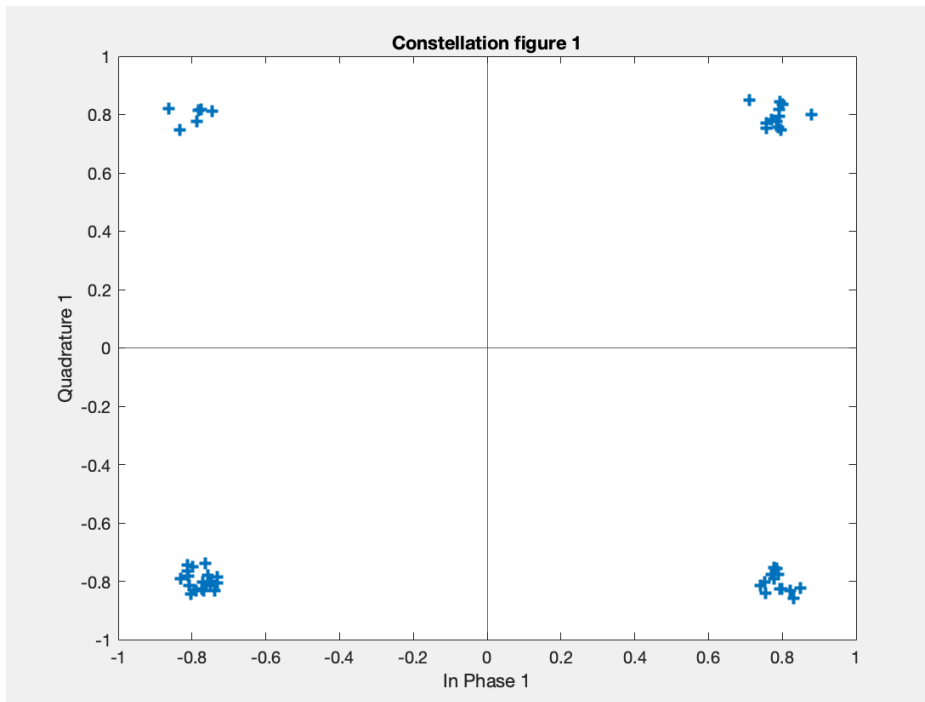
3. The noise cloud gets larger from h1 to h2 to h3, which has the largest noise cloud. This is due to distortions that are caused by intersymbol interference.

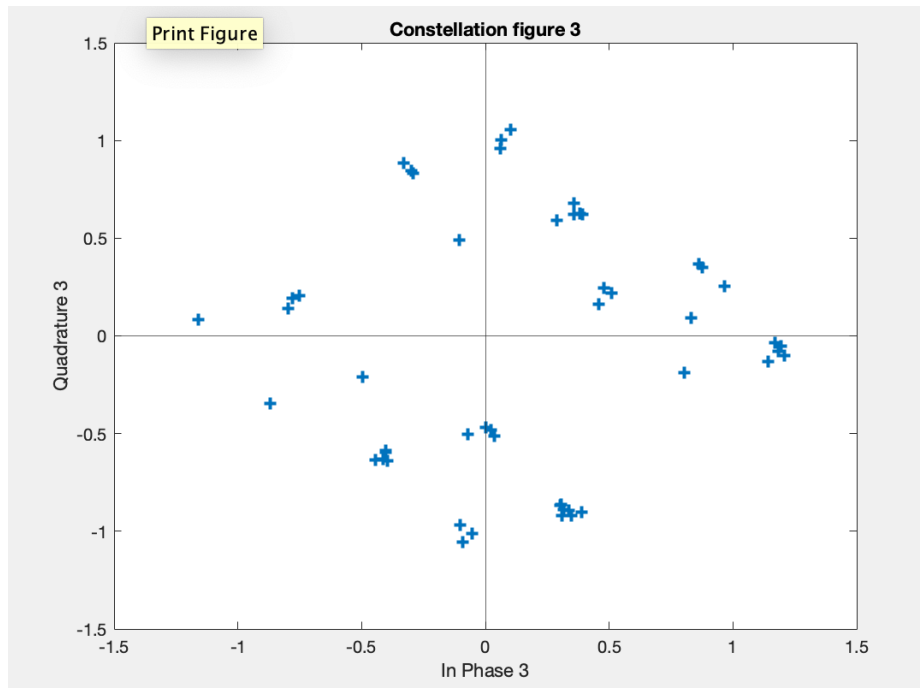
Bit error rate for channel 1 : 0

Bit error rate for channel 2 : 2

Bit error rate for channel 3 : 23

Channel 3 has the greatest BER and the highest distortion.





4. Signal distortion from frequency selective fading and intersymbol interference can be reduced by using channel estimation and equalization. The equalizer will negate the noise that the transmitted signal experiences.