Jetic Gū
Columbia College

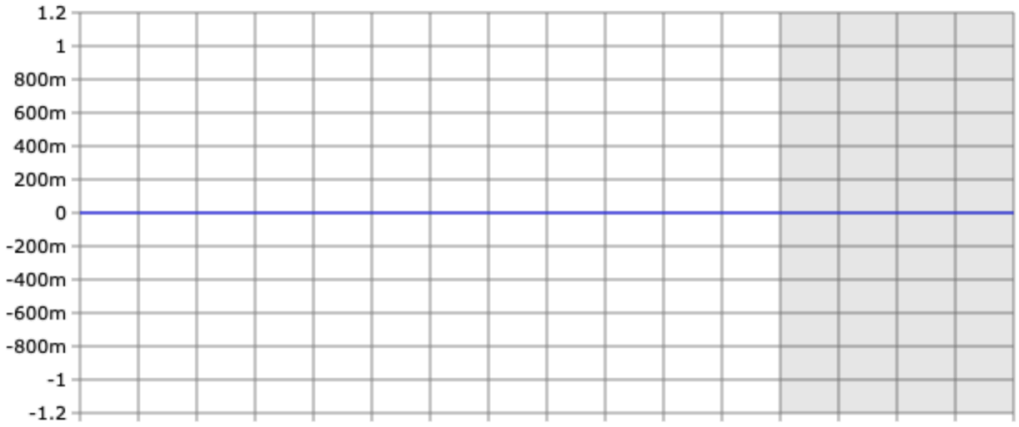
This assignment is due on 24 Jan 2021

Please remember to write your name and student number.

Please submit a single PDF for each assignment. Handwritten submissions and proprietary formats (e.g. Pages or MS Word) will not be accepted.

Assignment 1

1. Plot a single cycle of Sin waveform at 440 Hz. Maximum strength should be 1000m, minimum -1000m.



   A. At a sample rate of 4400, write down the values of each sample in a cycle.
   B. Convert all values to binary, octal, hexadecimal systems.
   C. Assuming each sample is going to be represented a 2 byte binary code, what is the bitrate going to be?

2. Perform a step by step multiplication of 54 and 7 in binary. Remember to write down all steps like we did in class, each step must be in binary.

3. What is the biggest number representable by the following bits of unsigned binary integers?
   A. 11 bits; 28 bits
   B. How about signed?
   C. How about signed with parity code?
   D. What if with BCD?

4. A. Show the bit configuration that represents the decimal number 42 in binary, BCD, ASCII, ASCII with even parity.
   B. Do it for 75.