CSE 232 SPRING 2020

HOMEWORK 1

Due Date March 16, Monday

1. Assume that 0 V is encoded as 00, 1 V as 01, 2 V as 10, and 3 V as 11. You are given a digital encoding of an audio signal as follows: 1111101001010000. Plot the re-created signal with time on the x-axis and voltage on the y-axis. Assume that each encoding's corresponding voltage should be output for 1 millisecond.

2. Convert the following binary numbers to decimal numbers:

a. 000011
b. 1111
c. 11110
d. 111100
e. 0011010

3. Convert the following binary numbers to hexadecimal:

a. 11001101
b. 10100101
c. 11110001
d. 1101101111100

4. Convert the following hexadecimal numbers to decimal:

a. 10
b. 4E3
c. FF0
d. 200

5. Encode the following words into bits using the ASCII encoding table in Figure 1.9.

a. LET
b. RESET!
c. HELLO $1