

- 1.1. Suppose an analog audio signal comes in over a wire, and the voltage on the wire can range from 0 Volts (V) to 3 V. You want to convert the analog signal to a digital signal. You decide to encode each sample using two bits, such that 0 V would be encoded as 00, 1 V as 01, 2 V as 10, and 3 V as 11. You sample the signal every 1 millisecond and detect the following sequence of voltages: 0V 0V 1V 2V 3V 2V 2V. Show the signal converted to digital as a stream of 0s and 1s.

00 00 01 10 11 10 10