MCEN - 3047

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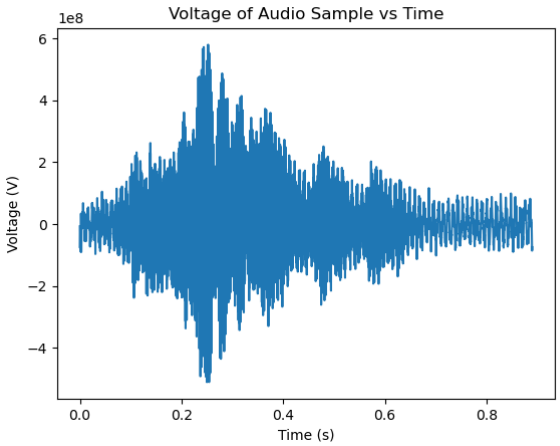
0.1 Problem 1

0.1.1 Part A



0.1.2 Part B

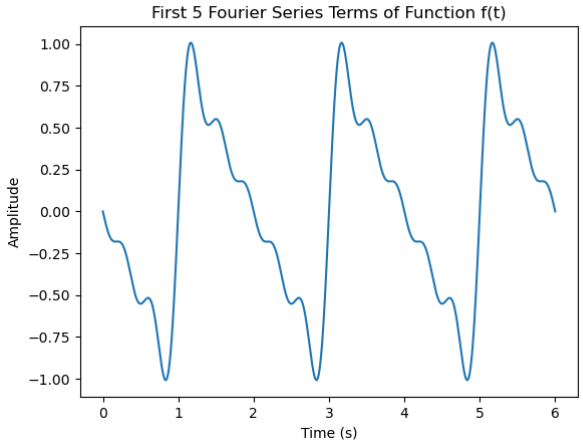
$$\text{LSB} = \text{8-Bit}$$

0.1.3 Part C

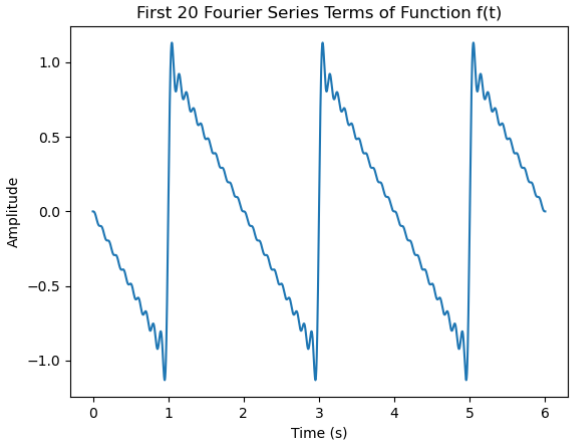
$$V_fs = 709859328.0$$

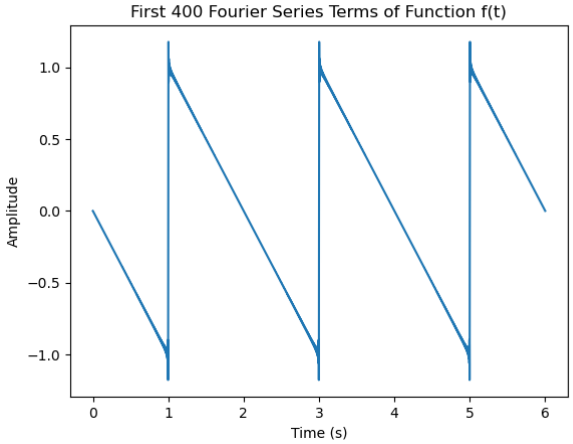
0.2 Problem 2

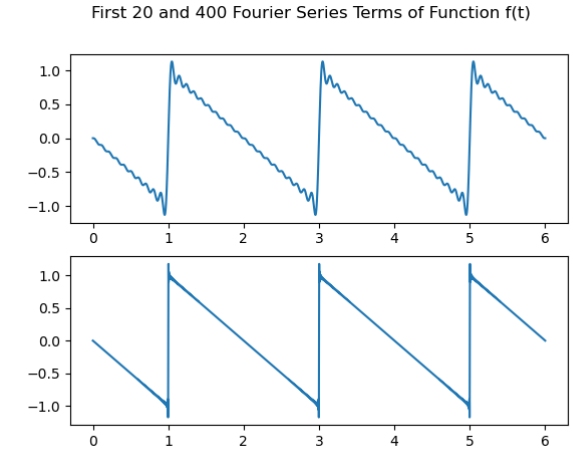
0.2.1 Part A



0.2.2 Part B





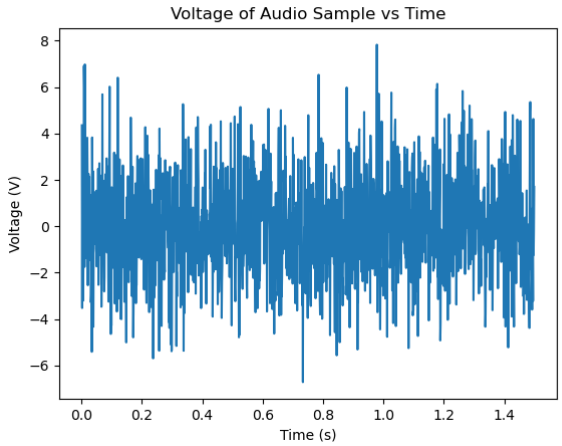


0.2.3 Part C

- The function becomes a better approximation of the cyclical ramp function as n increases, The function appears to become more jagged as n increases as well, better approximating digital signals, if it were one.

0.3 Problem 3

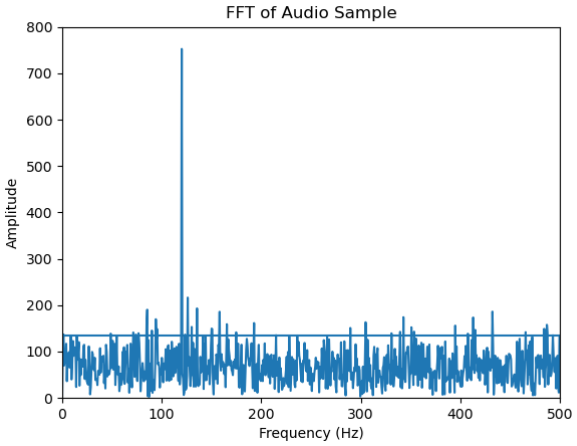
0.3.1 Part A



0.3.2 Part B

It may be possible to get an approximation from this time-series data, however the number may be far from accurate. Thus, one cannot decipher frequency information.

0.3.3 Part C



0.3.4 Part D

Frequency: 120.0800533689126