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**Group B**

**Internet Technology 2**

**Lab 7**

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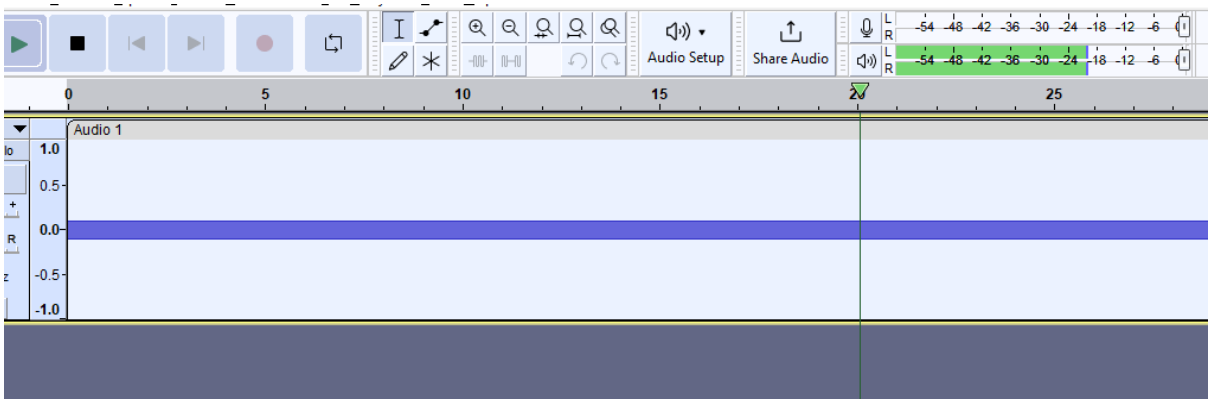
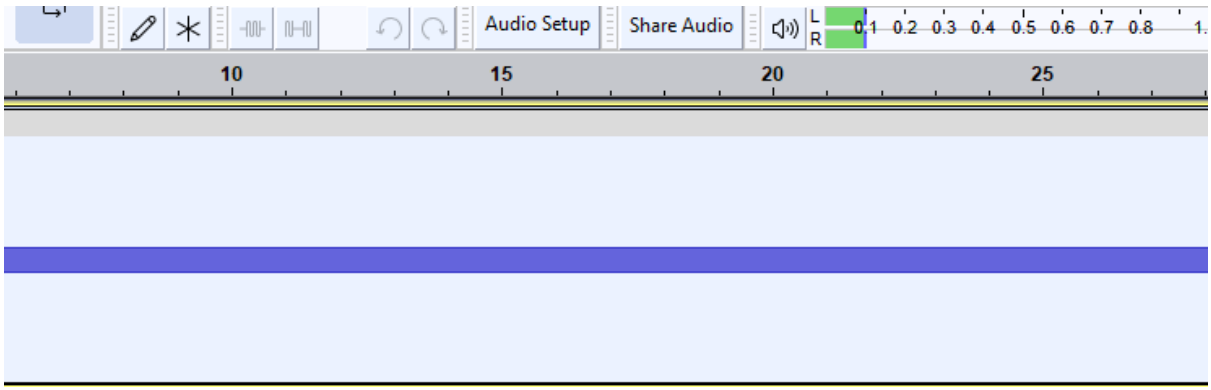
**Q. 3)**

dB playback level. dB output level is larger than the linear output.

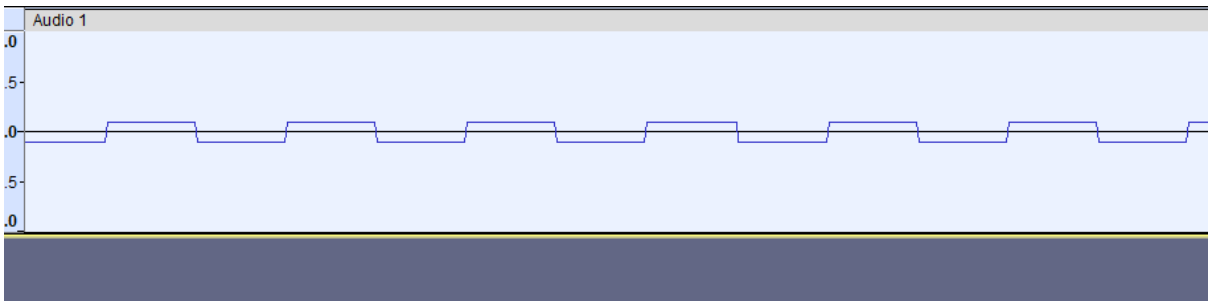



Linear playback. Linear playback is lower than dB output.



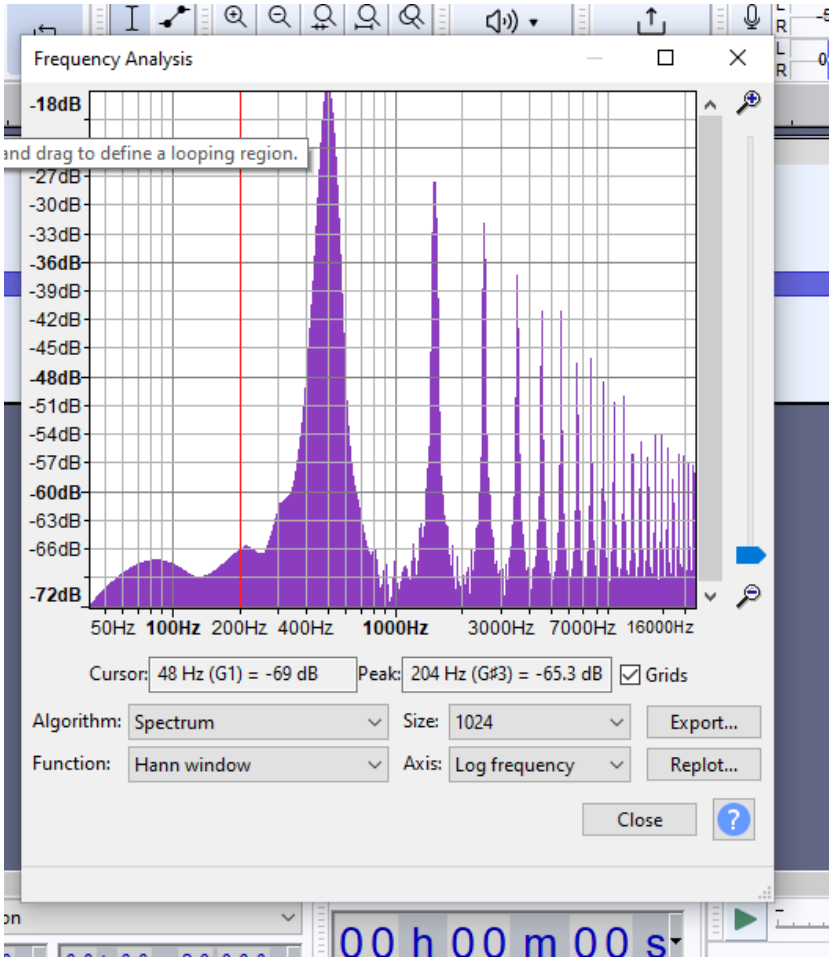
**Q 4)**

The signal zoomed in. The track has generated a square waveform with fixed maximum and minimum values.

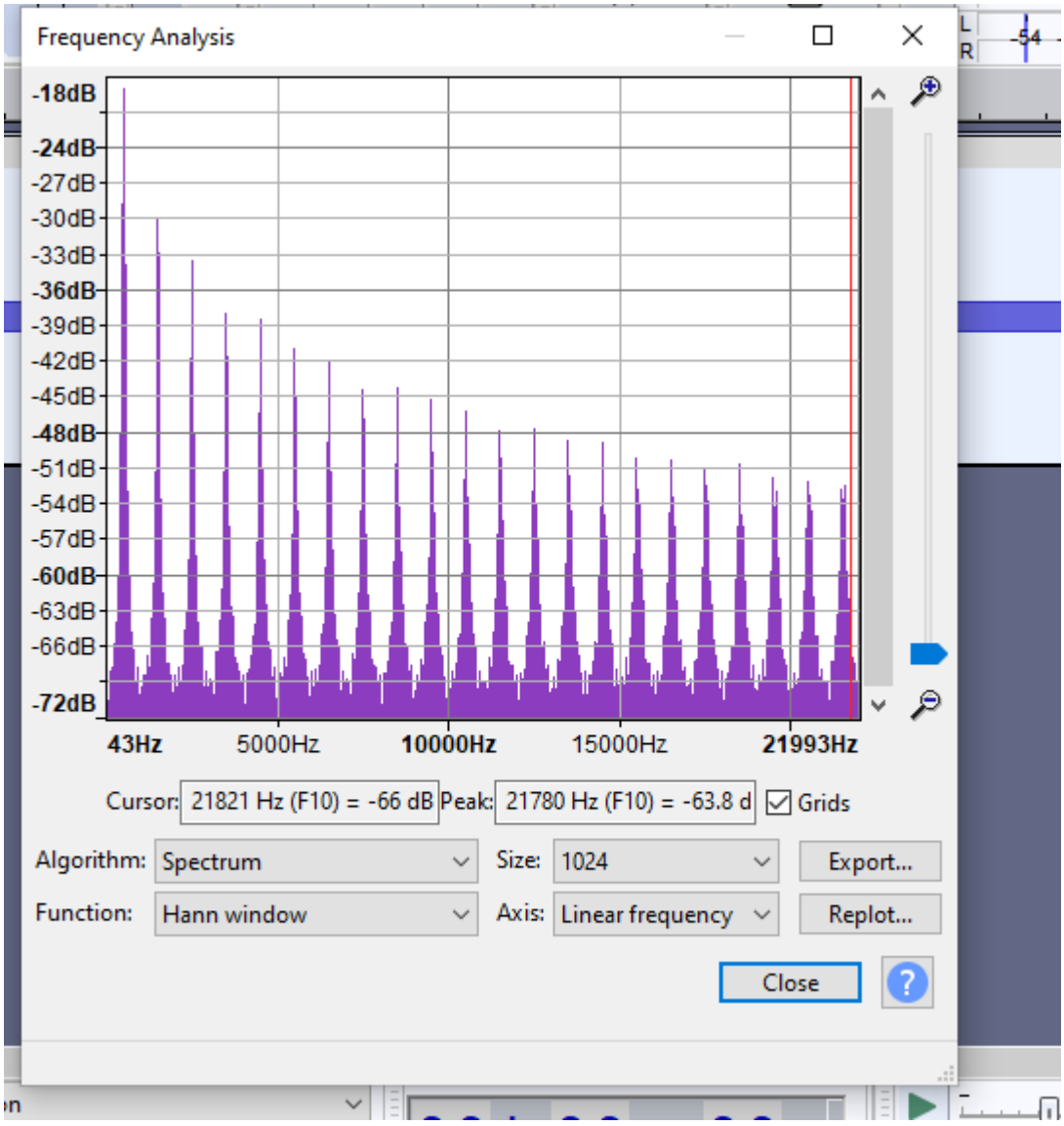



**Q. 5)**

X-axis = dB or logarithmic. The logarithmic scale gives greater display width to lower and middle range frequencies.

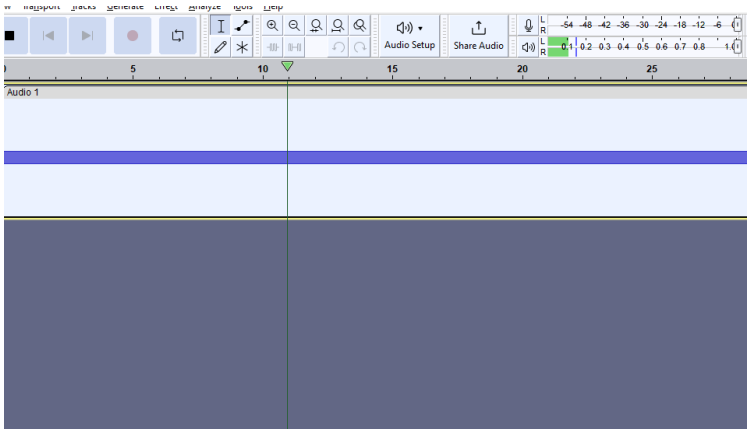


X-axis is linear. This linear scale provides an equal width to each Hz increment.



**Q 7)**

Base boost applied on the signal.




Every time you apply the base boost, you increase the overall level of the signal, and the track will sound more powerful. When bass boosting is applied you increase the amplitude of the low-end frequencies, typically the ones below 200 Hz. The remaining frequency bands are unaffected.


**Q. 8)**

Frequency = 500 Hz

Amplitude V = 0.1

The equation relates to a square wave signal.

$$s(t) = \sum_{n=odd}^{n=\infty} \frac{V}{n} \sin(2\pi nft)$$

When n = 1, freq = n x f = 1 x 500 = 500 Hz.

n = 3: 3 x 500 = 1500 Hz.

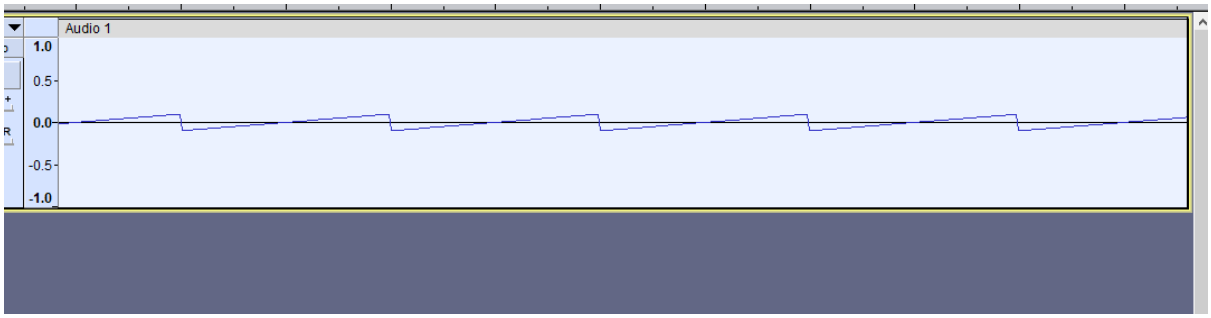
n = 5: 5 x 500 = 2500 Hz.

n = 7: 7 x 500 = 3500 Hz.

N = 9: 9 x 500 = 4500 Hz.

**Q. 10)**

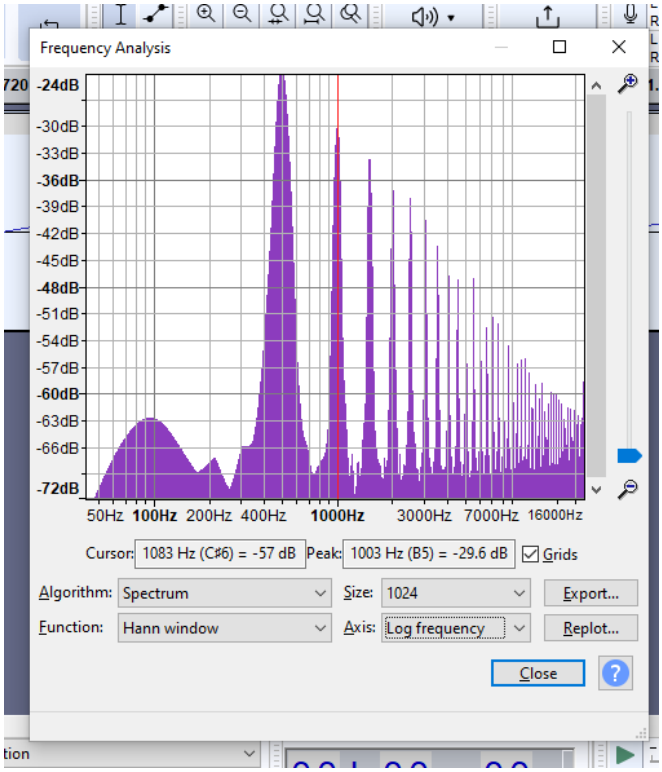
Sawtooth signal. The sawtooth audio contains all overtones, so it sounds more penetrating than the square wave audio.




Plot spectrum for the sawtooth signal. 1st peak = 498 Hz , 2nd = 1003 Hz, 3rd = 1499 Hz, 4th = 2001 Hz.

Distance between peaks is approximately 500 Hz. Sinewave is generated every 500 Hz.

In square wave the distance between peaks is approximately 1000 Hz.



The shape of the square waveform: Has a fixed minimum and maximum values of identical duration. Contains every other tone.

Sawtooth waveform: Has a gradual upwards slope followed by a shorter downwards slope.