

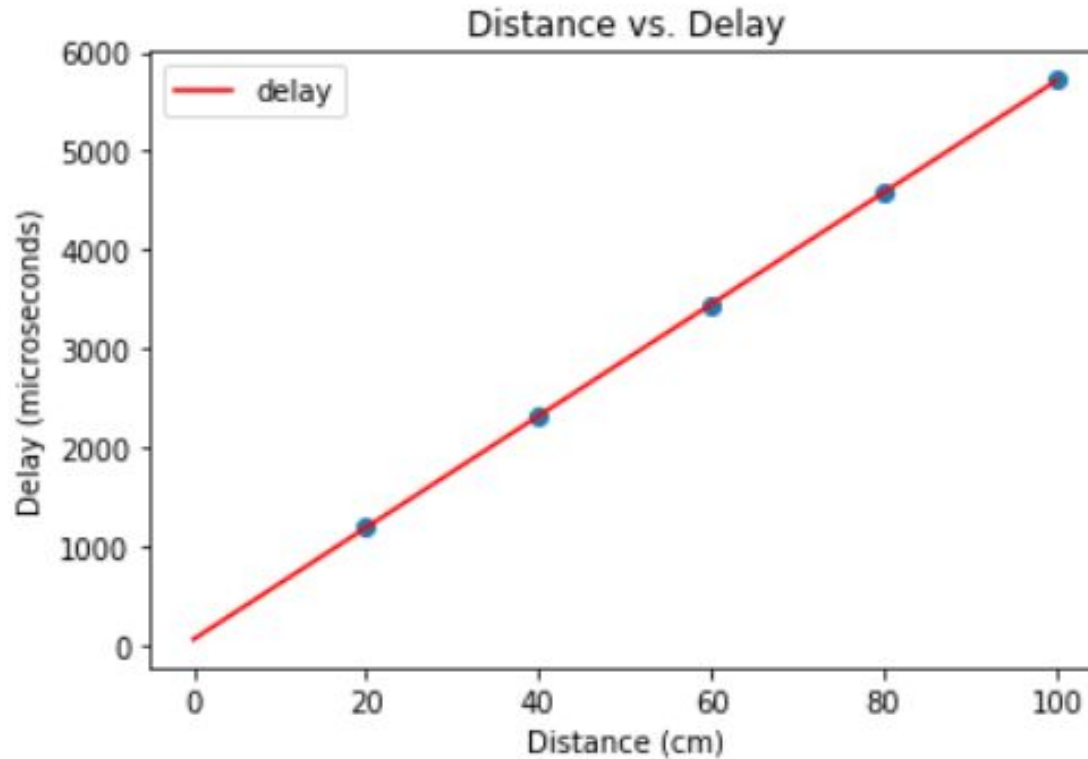
Lab 1C Assignment

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Distance vs delay

Distance (cm)	Delay (microsecond, mean \pm stddev)
20	1201.53 \pm 2.47
40	2311.98 \pm 6.59
60	3422.18 \pm 13.86
80	4582.75 \pm 7.60
100	5720.89 \pm 7.96

Plot of distance vs delay



Speed of sound

What speed of sound did you find through your analysis?

- 345.7 m/s

What is a standard speed of sound from a textbook?

- 343 m/s

What may contribute to any differences between the speed of sound you found and a textbook speed of sound?

- There may have been differences due to the presence of human error. There might have been slight error in placing the metal plate for the specified distances(20 cm, 40cm, etc.) The temperature in the room might have been slightly cold, changing the air pressure in the room and therefore affecting the waves. Finally, some of the energy from the sound might have been lost to the surrounding environment, causing a slight deviation from the textbook speed of sound.