CSCI – 4

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Euclidean Distance

For this assignment, I had to make a Python program that finds the Euclidean distance between two points. Euclidean distance basically means "how far apart two points are in space." Each point has an x, y, and z value.

To get the distance, I followed this simple thought process:

- First, I figure out how far apart the two points are on each axis.
- I subtract x-values, subtract y-values, and subtract z-values.
- Then I squared those three differences.
- Squaring makes everything positive.
- After that, I add the three squared numbers together.
- Finally, I take the square root of that total.
- The square root gives me the real distance.

In Python, I turned each of these steps into simple lines of code. I also made a small function, so the distance formula is easy to reuse. The main part of the program asks the user to type two points and then prints the distance.

The only challenge I had was remembering to break the formula into steps instead of writing it all in one long line. Once I separated each step (subtract, square, add, square root), it made a lot more sense.

This assignment helped me understand how to turn a math formula into Python code by doing it one small step at a time.