Euclidean Distance:

This assignment was an enjoyable one. So much so that I ended up with 4 versions of the code. I am turning in euclid2.py, but if for whatever strange reason you want to look at the other versions please feel free! So lines 2-8 are me defining the values of my chosen variables, and then defining which variables belong to which coordinates. Lines 10-23 are the function itself. I do realize NOW that it could have all been done within just a few lines, but I think what got in the way of me doing that was the way I was visualizing it as well as trying to figure out how to square it and find the square root. When it came to visualizing, I kept imagining the Pythagorean theorem since the Euclidean Distance is based around it, so rather than solving it all at once I wanted to find the values for A and B in the Pythagorean theorem (since $A^2 + B^2 = C^2$). This is how I ended up with A=q-x and B=p-y. And once I had those values you have to square them. When it came to figuring out how squaring them worked, I have to be completely honest I have the memory of a goldfish so I completely forgot how to enter exponents into python. This is why if you look in my other files they have versions of my code with math imports (yes I used the library for those files). This is one of the files where I realized when you are squaring something you are just multiplying it by itself, which is how we ended up with A*A and B*B. 'Now why are they in their own separate equations' you may be asking? Again that is because of how I visualized it, and I was sort of solving it in a step by step manner for some reason. Which is ALSO why we have d=a+b. The last section of the function is me finding the distance, which I found out today in class this is how you can find the square root in python so I decided to implement it into this file of python, and return distance gives us the final answer to the entire function. The euclid4.py file is the most simplified version and it is the one we talked about in class, but I decided I wanted to turn in something I wrote even if it is over complicated for genuinely no reason.