**Project 3 Write Up**

I approached Project 3 by defining feature layers (Districts\_Layer and incidents\_Layer) because we were only given feature classes (Districts and incidents). I used field\_names as a list and found out it was easier to reference back to for my code instead of having to type long names each and every time. Doing these procedures made it easier to use Select by attributes, Select by Location, and Get Count processes later on after making an Update cursor along with the for loop.

I used the for loop instead of a while loop because the while loop would have been longer to type and the for loop is shorter to type. Both loops could have been useful, but I could only choose one. I used the Update cursor approach because we want to update all of the empty row while the other commands add row (Add cursor) and search for specific rows that are field in (Search cursor).

I ran into some troubleshooting to calculate the area of the District feature class because of using words variables with math operations such as *result = arcpy.GetCount\_management(incident\_Layer* and then to *row[0] = result* for the Update Incidents field. I used this approach because it uses less typing and less confusing for a user with fewer steps that would give the same answer as a more complicated piece of code. I learned this effective to use if used correctly and would make things easier to calculate the incidents per square mile, which involved dividing variables over each other. From this approach would help to set the priority rankings.

I approached the Priority rankings with ELIF statements because they were easier to type and make sense than using all IF statements. I learned how to properly type values that are between a range using less than or equal to and greater than or equal to with the reserve word “and”. I updated the priority field because it is still in the for loop with the Update cursor for my approach. I learned that you have to delete the rows and cursor because both will run forever and potentially damage the program.