**Data Download:**

* Downloaded admin data in the form of shapefiles as provided by link.
* Downloaded population data as raster tiff as provided by link.
* For the Cyclone data, I converted the geojson returned from cyclone api to shapefile using QGIS

**Software Used:**

All Analysis are done in ArcMap. Please see “Map\_Index” file for all the analysis files.

**Git repo Link:**

https://github.com/saddamqaiser/GIS-Developer-827659.git

**Methodology:**

A screenshot of a computer

Description automatically generated

For this assignment I used ArcGIS Model Builder. First I developed the working model and then converted that model to Python script as required in the test.I performed following operations to develop the script which can accessed from “Python Script” folder on the repo.For the Model access please find it under “Model Builder” folder.

* First I prepared cyclone shapefiles from the api data.For this I downloaded Geojson and converted it to shapefiles using QGIS.
* Then I made separate shapefiles for 120,90 and 60 km/hr winds.
* For each wind shapefile i intersected it with admin2 boundaries.
* Intersected shapefiles population was calculated using zonal statistics tool with population raster.
* Similarly, for admin2 boundaries I calculated total population using population raster. this was done in zonal statistics tool.
* Then I Merged admin2 total population table with population calculated from 120,90 and 60 km/hr wind buffers.
* Then refined the excel sheet for submission.