**DOCUMENTATION- CLUSTERING LOGIC**

Aim: To solve clustering image data problem. I.e., to automate the division of images that are taken during flight into separate stretches with overlap for processing of data.

Programming Language used: Python.

Logic Used for Solving Problem:

1. The GCP KML file is imported.
2. The image file is imported.
3. GCP’s and images are taken from KML file.
4. UTM coordinates of GCP are converted into X, Y coordinates.
5. Lat-Long Coordinates of images are converted into X, Y coordinates.
6. Count number of GCPs.
7. The Overlap length is entered by user and the breadth is entered by the user.
8. Three GCPs are taken in one stretch of data.
9. The slope of every third and fourth GCP is taken.
10. ‘X’ meters are taken from every fourth GCP and ‘-X’ meters are taken from every third GCP.
11. At these X meters perpendiculars are taken and at the stated breadth by the user lines are drawn to complete a rectangle.
12. The Images inside these rectangles will be the overlaps.
13. Till every third GCP the images are put into one folder and named as stretch 1,2,3,etc.

Limitations:

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