

BDA PROJECT CHECKPOINT-I REPORT

SUBMITTED BY

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Aim:

Parse an input GPS file containing '\$GPRMC' and '\$GPGLL' attributes for gps points. We need to parse this file and generate a new kml file that could be rendered on Google Earth.

Process:

We read the input gps file normally using the open command. Iterated over each row. Each row of GPS data was split on ',' so that we have a list of all attributes for every corresponding row.

We check if the first attribute value is '\$GPRMC' or '\$GPGLL'. From both we need to extract the longitude, latitude and speed values and write them on the kml file. The values only differ on the positioning on each type based on '\$GPRMC' or '\$GPGLL'. When we extract the latitude value or longitude, we first save the original value in a new variable, then check the corresponding direction, if south or west, the latitude and longitude value are negative and positive otherwise. Then we save the degree part of the value in a new variable, get the time part into another new variable and finally concatenate the two to get our final updated latitude and longitude values. But in the kml files, first value is longitude then latitude and finally the speed.

The speed value is only present in the '\$GPRMC' attribute. So, the same value is used for the immediate next '\$GPGLL' speed value.

The initial kml file tags are defined and written first to the kml file and after all the coordinates required are written to the kml file, the closing tags are added to it.

When the kml file is dragged and dropped on the Google Earth desktop application, we can see a clear visible path that is what the aim of this checkpoint was.

Learnings and Conclusion:

- Learnt how to parse a GPS file in python without the use of any python package or library.
- Learnt how to split a row of data on a particular basis (',' here) and then select the required attribute value by using appropriate list indexes.
- Obtain the correct degree and time value from the original latitude and longitude value.
- Understand to write a program that writes another program.
- Learnt what attributes and how '\$GPRMC' and '\$GPGLL' differ in a broad sense.