**OOP – Ex2 explanation**

**\*\* Our algorithm works only on our program's output files. You can find them in the folder "algo1\_files" \*\***

**Algo1:**

With this algorithm we can calculate w-center point for each MAC address that was captured in the app's scans.

For the first algorithm we created 3 classes:

Algo1\_line - every object of this class holds 3 parameters: Signal, Alt and Location.

We add option of sorting those objects by the signal.

Algo1\_linefile – this class is the output file format. Every line of the final CSV file contains several objects of the wifi network scan – time, Network object (=ssid, mac, signal and chanel) and the new point (Alt, Lat and Lon) of the w-weight center.

Algo\_1 – this is the main class for the first algorithm. This class holds several ArrayList -

**private** List<LineFile> \_file; //List of type LineFile

**private** List<Algo1\_linefile> \_fileList; //List of type LineFile which contains the merge CSV file

**private** ArrayList<Double> \_wLat; // new list for the Lat coordinate

**private** ArrayList<Double> \_wLon; // new list for the Lon coordinate

**private** ArrayList<Double> \_wAlt; // new list for the Alt coordinate

**private** ArrayList<Double> \_wWeigth; // new list for the weight according the equation

//the final points for every mac address **private** **double** wLon,wLat,wAlt;

**final** **int** max\_Signals = 4 ; //for wifi's with same mac address, we take only 4 strongest sorted by signal wifis.

**Functions:**

Locate\_Mac();

Search();

Calc\_Wsum();

readFile();

toCsv();

**Algo2:**