Traffic Module (traf)

# Class Navdatabase

This class is in navdb.py

## \_\_init\_\_(self,subfolder)

Goal: Load waypoint, airport and fir data from the specified 'subfolder' input

Inputs:

1. subfolder(string, name of subfolder containing the navigation data files, in this case the ‘global folder’)

Outputs: -

## getwpidx(self,txt,lat=999999.,lon=999999)

Goal: Get waypoint index for the given waypoint name (txt). This makes it possible to access the data of that waypoint from the waypoint data arrays that were loaded by the \_\_init\_\_ function (see above).

Inputs:

1. txt (string, name of waypoint)
2. lat(float, latitude of waypoint, degrees, optional)
3. long(float, longitude of waypoint, degrees, optional)

Outputs:

1. index of requested waypoint

## getapidx(self,txt)

Goal: Get airport index for the given airport name (txt). This makes it possible to access the data of that airport from the airport data arrays loaded by the \_\_init\_\_ function.

Inputs:

1. txt (string, name of airport)

Outputs:

1. index of requested airport

## getinear(self,wlat,wlon,lat,lon)

Goal: Get index that is nearest to lat and lon. Used by getwpinear() and getapinear() functions, see below.

Inputs:

1. wlat(array of floats, latitude of all waypoints/airports, degrees)
2. wlon(array of floats, longitude ofsll waypoints/airports, degrees)
3. lat(float, latitude of point, degrees)
4. long(float, longitude of point, degrees)

Outputs:

1. index of nearest waypoint/airport

## getwpinear(self,lat,lon)

Goal: Find the index of the waypoint that is nearest to the specified lat lon coordinates

Inputs:

1. lat(float, latitude of point, degrees)
2. long(float, longitude of point, degrees)

Outputs:

1. index of nearest waypoint

## getapinear(self,lat,lon)

Goal: Find the index of the airport that is nearest to the specified lat lon coordinates

Inputs:

1. lat(float, latitude of point, degrees)
2. long(float, longitude of point, degrees)

Outputs:

1. index of nearest airport

## getinside(self,wlat,wlon,lat0,lat1,lon0,lon1):

Goal: Get indices inside given box. Used by getwpinside() and getapinside() functions, see below.

Inputs:

1. wlat(array of floats, latitude of all waypoints/airports, degrees)
2. wlon(array of floats, longitude of all waypoints/airports, degrees)
3. lat0(float, latitude of the bottom left coordinate, degrees)
4. lon0(float, longitude of the bottom left coordinate, degrees)
5. lat1(float, latitude of the top right coordinate, degrees)
6. lon1(float, longitude of the top right coordinate, degrees)

Outputs:

1. list containing the indexes of the waypoints/airports that are inside the specified box

## getwpinside(self,lat0,lat1,lon0,lon1):

Goal: Determine the indexes of all the way points inside box

Inputs:

1. lat0(float, latitude of the bottom left coordinate, degrees)
2. lon0(float, longitude of the bottom left coordinate, degrees)
3. lat1(float, latitude of the top right coordinate, degrees)
4. lon1(float, longitude of the top right coordinate, degrees)

Outputs:

1. list containing the indexes of the waypoints that are inside the specified box

## getapinside(self,lat0,lat1,lon0,lon1):

Goal: Determine the indexes of all the airports inside box

Inputs:

1. lat0(float, latitude of the bottom left coordinate, degrees)
2. lon0(float, longitude of the bottom left coordinate, degrees)
3. lat1(float, latitude of the top right coordinate, degrees)
4. lon1(float, longitude of the top right coordinate, degrees)

Outputs:

1. list containing the indexes of the airports that are inside the specified box