Readme file for Flytbase Assignment

This code is used to check for conflicts between certain simulated drones which are hardcoded with fixed paths and random time intervals against a primary drone which follows a path generated by the user input waypoints ( any in number ) and user input start and stop times. The code assumes that the drone flies with constant speed throughout the duration across all segments generated by waypoints.

Further, the primary drone merely reaches the waypoint and changes direction immediately after it, unlike an actual physical system. We may implement better methods to navigate through waypoints by introducing half planes and radii or revolving around waypoint to change direction.

1. INPUT:  
   I. Waypoints for primary drone: n number of 3D points [x y z]

II. Start time of primary drone

III. End time of primary drone

1. Output:

The code returns conflict status of the primary drone along with details like:

I. Which simulated drone it crashes with

II. Time of crash

III. Location of crash in 3D space

We also see an animation of the same where upon crashing, the 2 concerned drones will stop moving on the plot.

1. How to run the code:

Use any python editor such as VSCode, and run the file, provide the necessary inputs

OR

Save the document at a desired directory and using terminal, open path and run the .py file using <<python [filename.py](http://filename.py)>>