***my elevator algorithm***

what we doing?:

in this project we want to create an efficient algorithm that when given an json file that contains a building and an csv that contains a number of calls the algorithm will be able to choose which elevator in the given building will be our best option for the current given call.

When the algorithm will finish to run on all the given calls another csv file will be created which will be the output file, the output file will be almost the same as the calls file the only difference will be that the output file will contain the index of the elevator that have been chosen in the last column instead of -1.

How the algorithm works?:

After the algorithm got the 2 needed files (json building and csv calls) he will create a list containing all the calls with the "allocateanelevator" function that will receive each call the algorithm will check how long it will take for each elevator to finish all his given tasks using the function "calctime".

the elevator with the shortest finish time will be the best elevator for the call as it has its going to take her the least time to finish all her current calls and get take care of her given call.

What the algorithm contains?:

The algorithm contains 4 important classes:

Building: will represent the given building his job is to receive the given building json file translate it to terms the algorithm can understand such as his elevator, mini floor and max floor.

Elevators: will represent each elevator that the building contains and like the building class will translate elevator to terms the algorithm can understand in addition the class will also be responsible for creating a list that will contain all the calls that are being sent to a certain elevator

Calls: similar to elevator and building calls will translate the given call to terms the algorithm can understand and use much like building the class will be able to receive a given csv file and translate it for the algorithm

MyElevAlgo: that is our "main" class that will run the code that is needed to perform the allocation of the elevators the main will receive from the user the building and the calls then send the needed information to "allocateanelevator" and when it done running on all the given calls will create csv file that contains all the calls info plus the elevator that have been chose to each call.

How to run it?:

Running the program is very simple all is needed is to go to MyElevAlgo and run the "main" function (that located in line 46) then the algorithm will ask for a path to your json building file after you enter the building path the algorithm will ask for a path to your csv calls file after you enter the path the algorithm will create the csv output file that will contain all the calls information plus the index of the elevator that have been allocated for each call