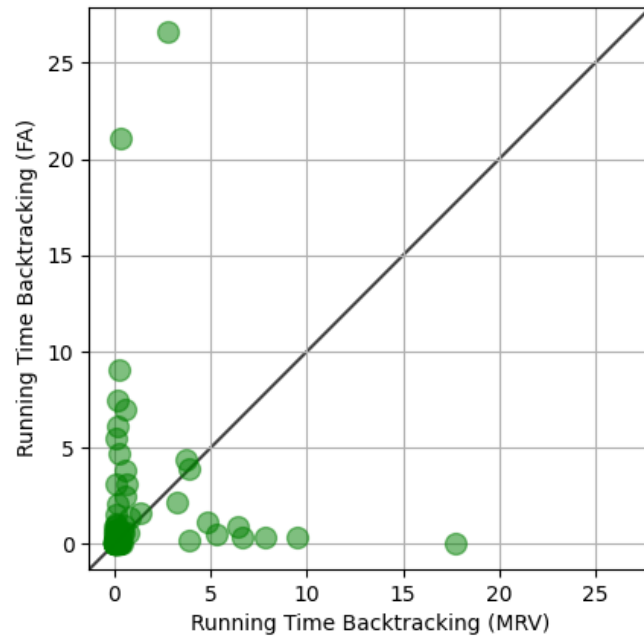# Assignment 3

The scatter plot of the backtracking algorithm shows that it works faster with the MRV heuristic as compared to the First Available heuristic on most grids. This is because the first available heuristic selects the first unassigned variable it encounters without considering the remaining variables. On the other hand, MRV selects the unassigned variable with the smallest domain, thus reducing the search space to find a solution faster and more efficiently.

However, there are some grids where the First Available heuristic works faster. These must be grids where most variables have similar domains and/or there is no significant difference in domain reduction as the backtracking algorithm iterates.