# Analyzation of Time Complexities

The code for measurement average execution time is as follows:



As for the addition is:



And removal of any architecture from any type of street is constant time. With these we can see that in first code block time complexity is where A(n) is time complexity of addition and R(n) is time complexity of removal, which is constant time. But to add a architecture system checks if it can be built on the street if it was empty, it cannot be built if it was outside of the street length for example, making this best case θ(1), but worst case is none of the existing architectures overlaps and given architecture is valid to be added, making it θ(n). So, addition time complexity is O(n). Therefore, measured time in the program has a complexity of

For every street type