COL333 : Assignment 4

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We use a rule based policy for this part of the assignment. All lifts complete the entire circuit of going to the topmost floor and then coming down to the bottom foor. The lifts stop at every floor to collect and drop off people. Initially when all lifts are at the ground floor, all doors are open. The first lifts starts moving. When the lift completes 1/K part of its entire circuit then the second lift starts moving and similarly the third lift starts moving when the second lift completes 1/K part of its circuit. This way the lifts maintain a uniform distance between themselves and the wait time of a passenger appearing at any floor is minimized.

We observed that this policy works best for cases with high demand (p high), since the for a person appearing at any floor, there is a lift at max (N/K) floors away. For cases of low demand (p low) the policy obviously does poorly because of the high electricity cost of moving the lifts continuously and unnecessarily.