

AI Assignment 4
Lift Management System
Bonus Part

We have basically implemented a Greedy Policy with some additional Optimizations.

The policy does the following:

1. Each lift has 3 states: Up, Down and Empty.
2. The lift in up state travels in the upward direction and opens also in the upward direction.
3. The lift in down state travels in the downward direction and opens also in the downward direction.
4. The lift in the Empty state waits for a button to be pressed and then goes to the nearest floor on which an up or a down button is pressed.

Optimizations Used:

Over and above our algorithm we have used 2 optimizations:

1. We do not move a lift in empty state on a button press if another lift can reach the floor on which button is pressed, earlier than this lift.
2. In case of a tie (i.e when 2 lifts are equidistant from a floor on which a button is pressed) we move the lift with the lower index.

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