

# An exploration Finite State Automata

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## 1 Task 1 — Traffic Light

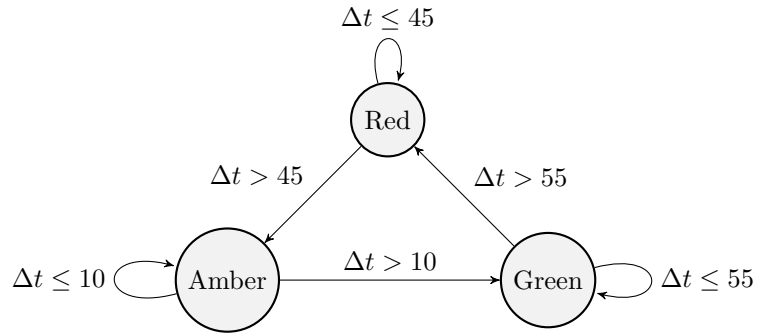


Figure 1: Graph showing the finite state automata where  $\Delta t$  represents the number of ticks, or seconds, since the last state change.

## 2 Task 2 — Decimal Parser

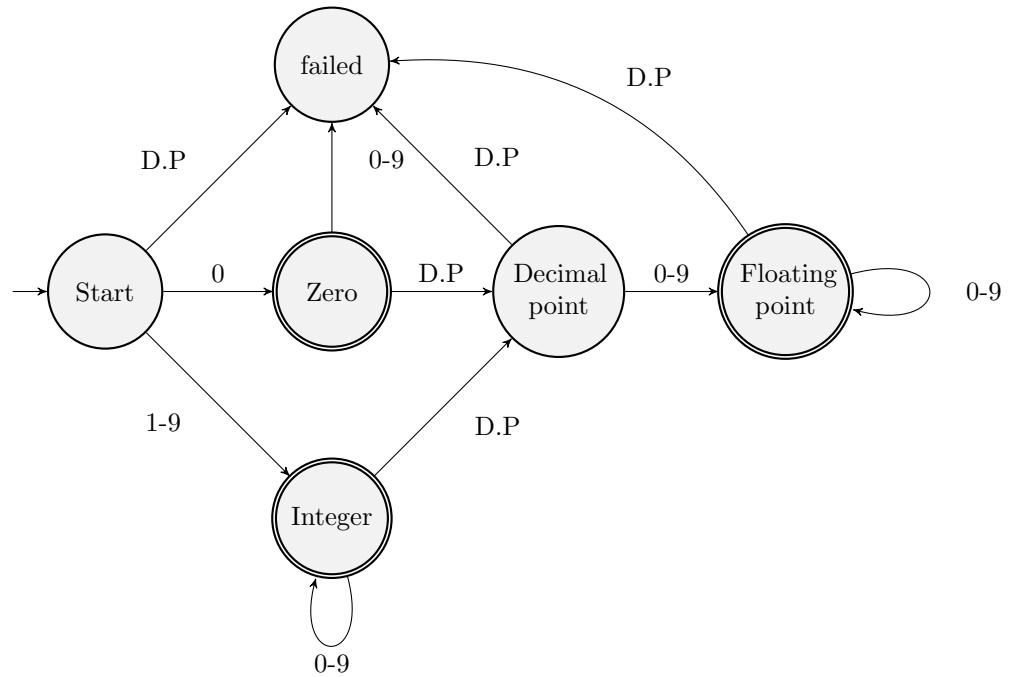


Figure 2: A finite state machine that parses a number from a string one character at a time the state machine ends when the final character is reached the parse is considered a success if the ending position is on an accepting node. Any undefined behaviour, such as encountering a character not in  $\{'1', '2', '3', '4', '5', '6', '7', '8', '9', '.'\}$ , is automatically assumed to be a fail.