An exploration Finite State Automata

Alan Teesdale

August 2022

$1 \quad \text{Task } 1 - \text{Traffic Light}$

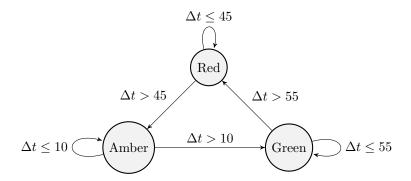


Figure 1: Graph showing the finite state automata where Δt represents the number of ticks, or seconds, since the last state change.

2 Task 2 — Decimal Parser

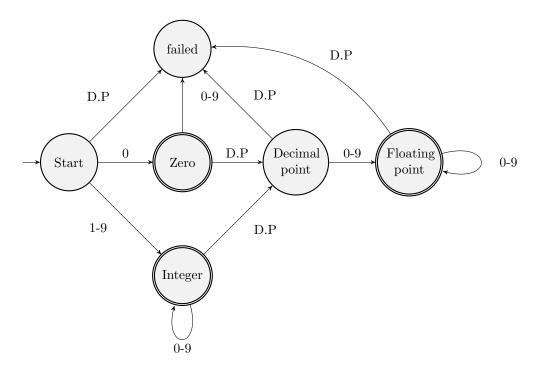


Figure 2: A finite state machine that parses a number from a string one character at a time. The state machine ends when the final character is reached. The parse is considered a success if the ending position is on an accepting node. Any undefined behaviour, such as encountering a character not in {'1',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