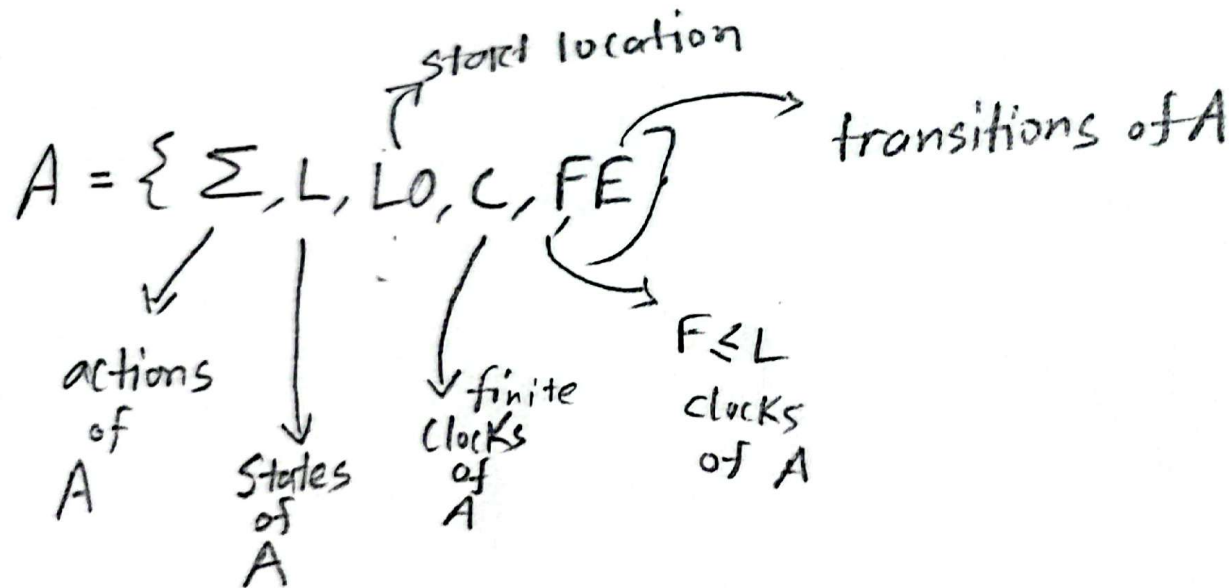


$a \rightarrow 1$      $b \rightarrow 1$      $c \rightarrow 1$



- List all possible states
- Declare all variables
- For each state, list possible transitions with conditions to other states
- No two existing states can be true at the same time

# Dual-Elevator System

## States

idle @ ground, 1st, 2nd

Moving up or down

emergency

Door opened

Door closing

Door closed

## inputs

ground-call

first-floor-call

second-floor-call

passenger-interrupt

## actions

open-door

close-door

assign-elevator

reset-timer  $t \geq 4$

alarm  $t \geq 15$

T

```
assign_elevator(floor_call, elevator_a, elevator_b)
{
```

```
  if both idle
```

```
  {
```

```
    A = | elevator_a - floor_call |
```

```
    B = | elevator_b - floor_call |
```

```
    return A ≤ B ? A : B ;
```

```
  }
```

```
  if A idle return A
```

```
  if B idle return B
```

```
  if no one's idle
```

```
  {
```

```
    calculate who reaches that floor faster and then
```

```
    return that one
```

```
    return tA ≤ tB ? tA : tB ;
```

```
  }
```

