

EMBEDDED SYSTEMS

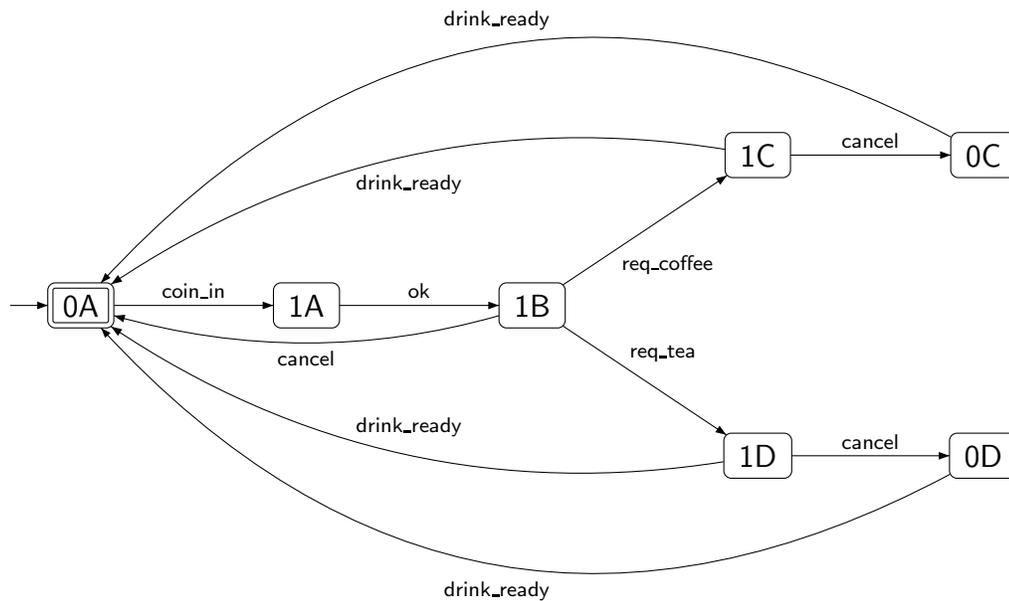
ASSIGNMENT 1

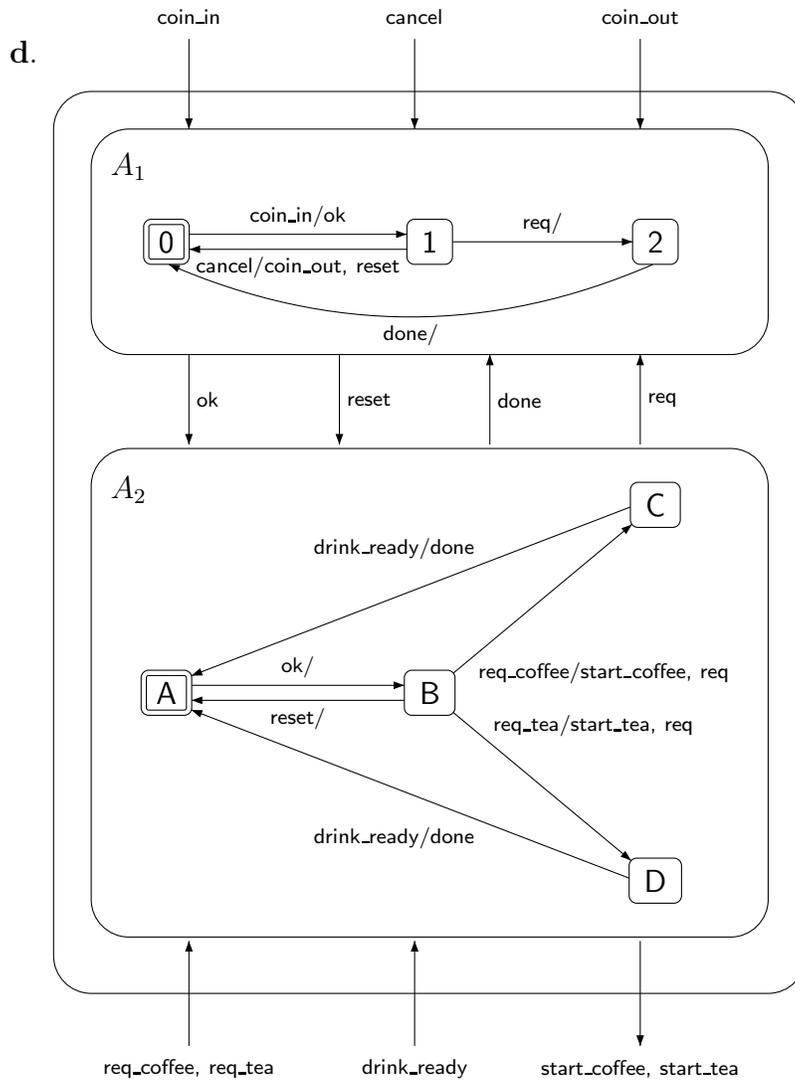
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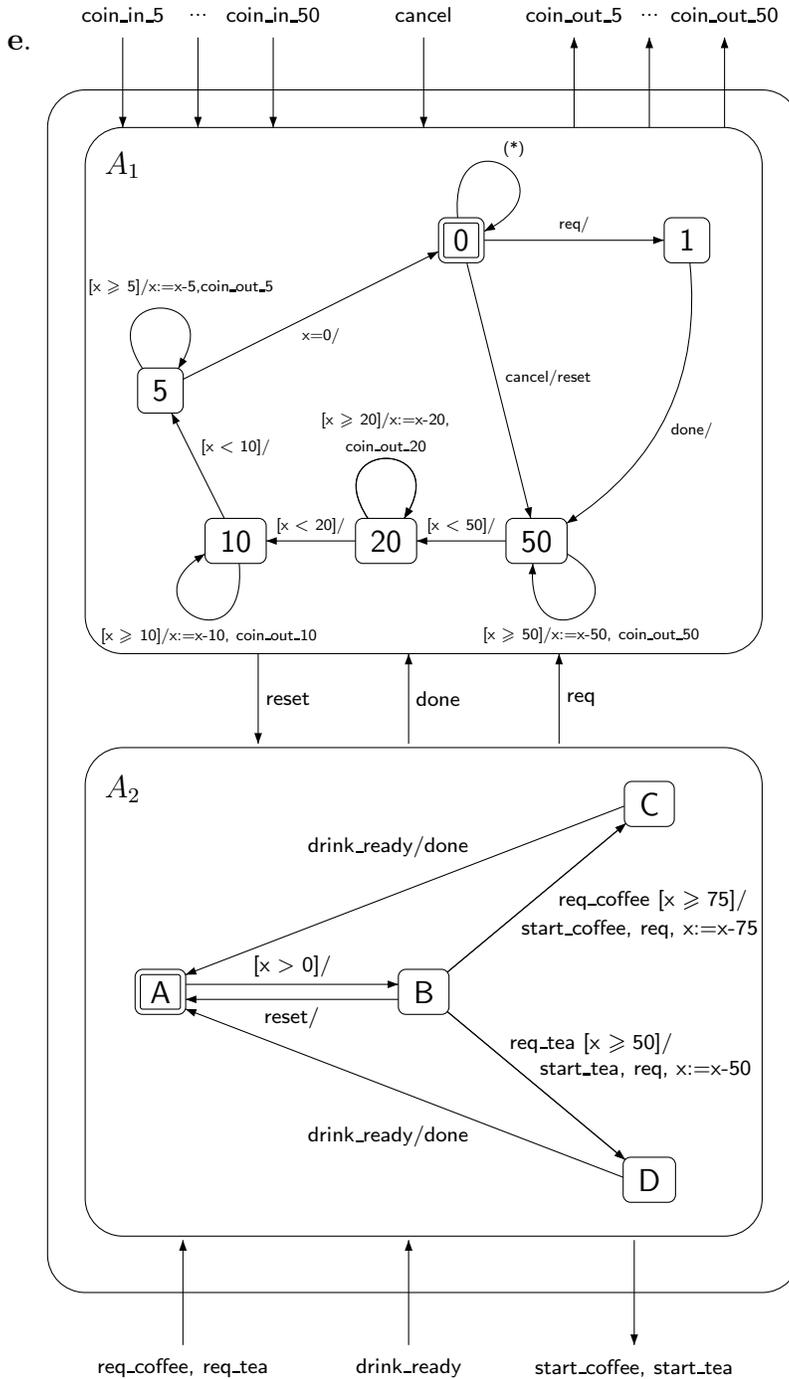
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1.1 A Vending Machine

- a.
- Initially, the automata are in states 0 and A.
 - The user inserts a coin, the environment generates the event `coin_in`, A_1 moves to state 1 and the event `ok` is generated.
 - A_2 consumes the event `ok` and moves to state B.
 - The user requests a tea, the environment generates the event `req_tea`, A_2 moves to state D and the event `start_tea` is generated.
 - The event `drink_ready` is generated by the environment, A_2 moves to state A and the event `done` is generated.
 - A_1 consumes the event `done` and moves to state 0.
- b. Imagine that the user presses the cancel-button while the coffee or tea is prepared, then the user can get the drink and the money out of the machine, because there is no lock on the cancel-button while the drink is being prepared.
- c.





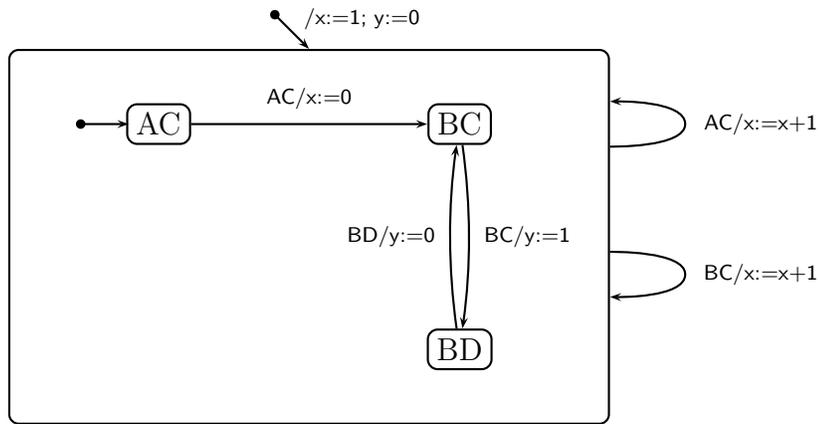


For the sake of readability, the loops – marked with $(*)$ – for state 0 are left out. The loops are:

- coin_in_5/ $x:=x+5$

- coin_in_10/x:=x+10
- coin_in_20/x:=x+20
- coin_in_50/x:=x+50

1.2 Statecharts



1.3 Statecharts

