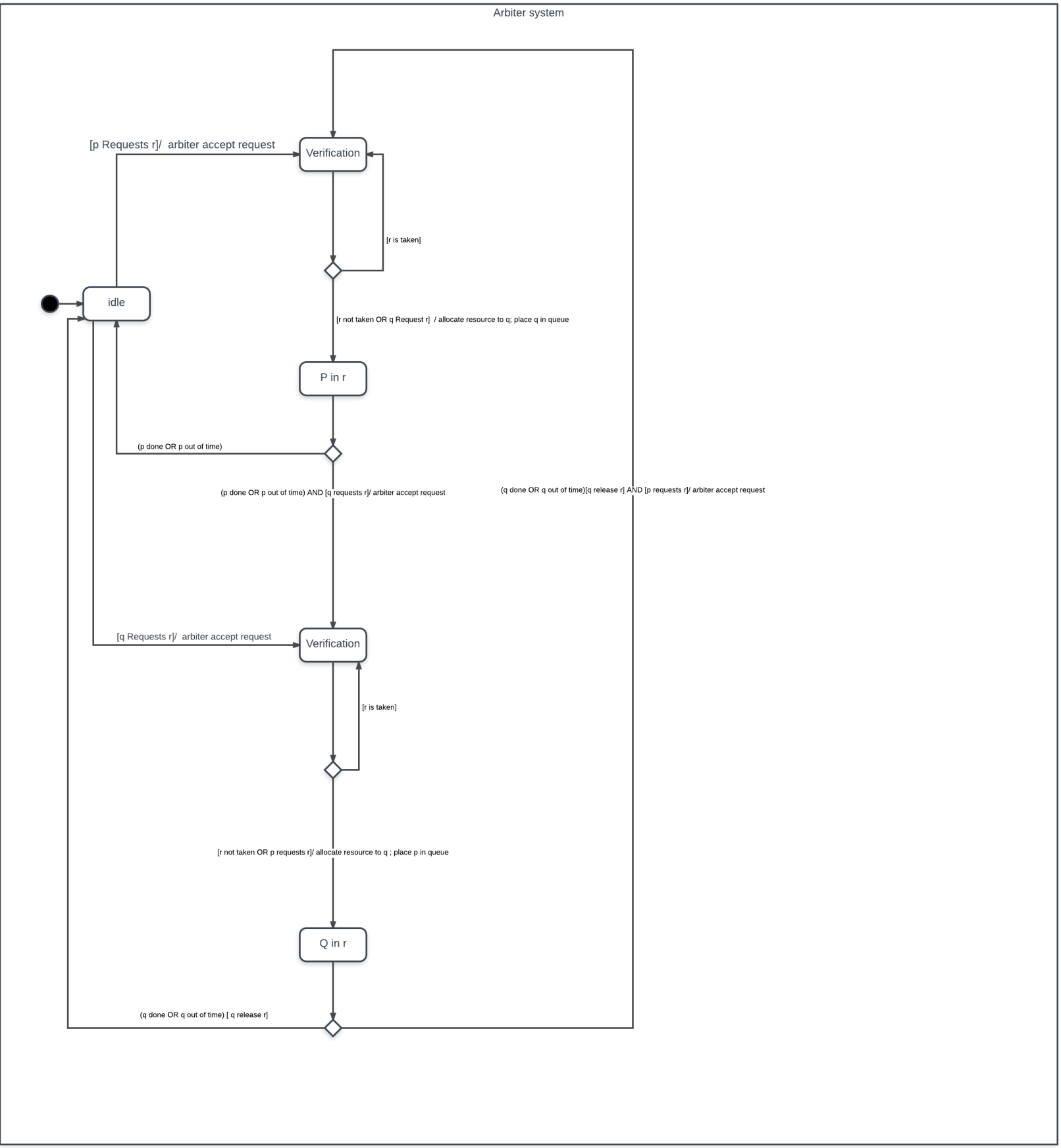
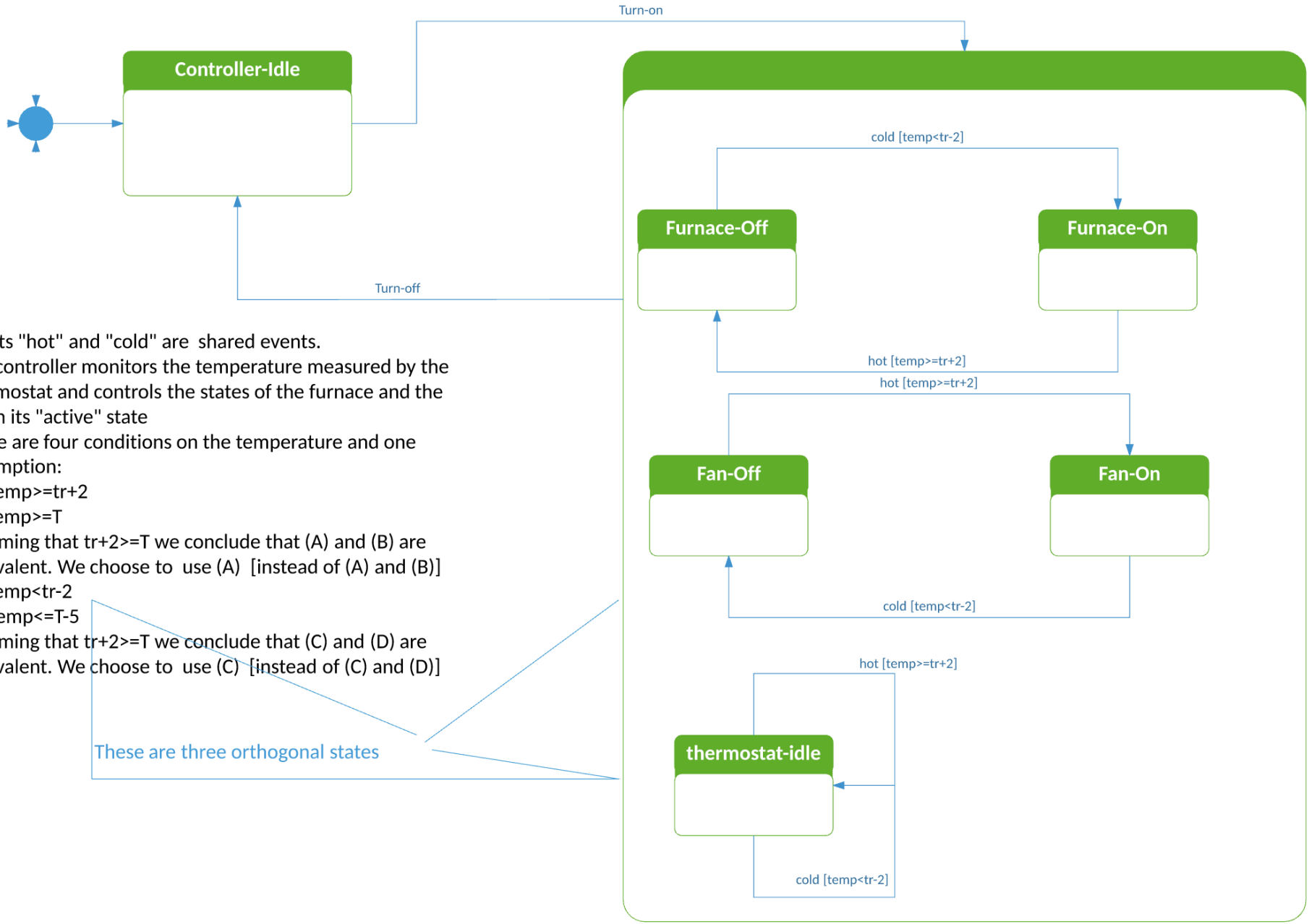

Arbiter system
[p Requests r]/ arbiter accept request
Verification
[r is taken]
idle
[r not taken OR q Request r] / allocate resource to q; place q in queue
P in r
(p done OR p out of time)
(p done OR p out of time) AND [q requests r]/ arbiter accept request
(q done OR q out of time)[q release r] AND [p requests r]/ arbiter accept request
[q Requests r]/ arbiter accept request
Verification
[r is taken]
[r not taken OR p requests r]/ allocate resource to q ; place p in queue
Q in r
(q done OR q out of time) [q release r]



Events "hot" and "cold" are shared events.
The controller monitors the temperature measured by the thermostat and controls the states of the furnace and the fan in its "active" state
There are four conditions on the temperature and one assumption:
(A) temp>=tr+2
(B) temp>=T
Assuming that tr+2>=T we conclude that (A) and (B) are equivalent. We choose to use (A) [instead of (A) and (B)]
(C) temp<tr-2
(D) temp<=T-5
Assuming that tr+2>=T we conclude that (C) and (D) are equivalent. We choose to use (C) [instead of (C) and (D)]