PROGRAMMING ADVANCED FEEDBACK WITH ARDUINO
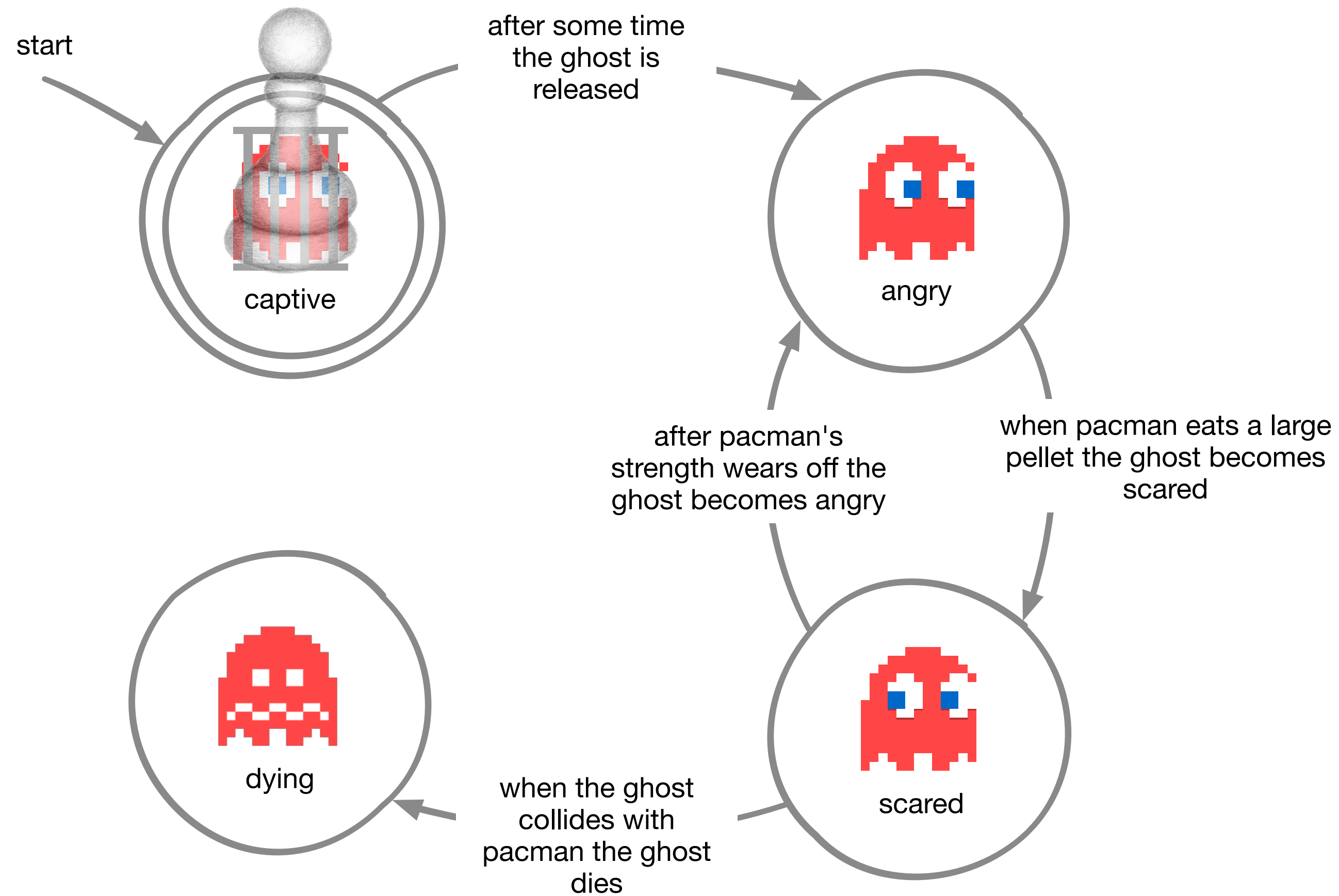
The Pomodoro Technique
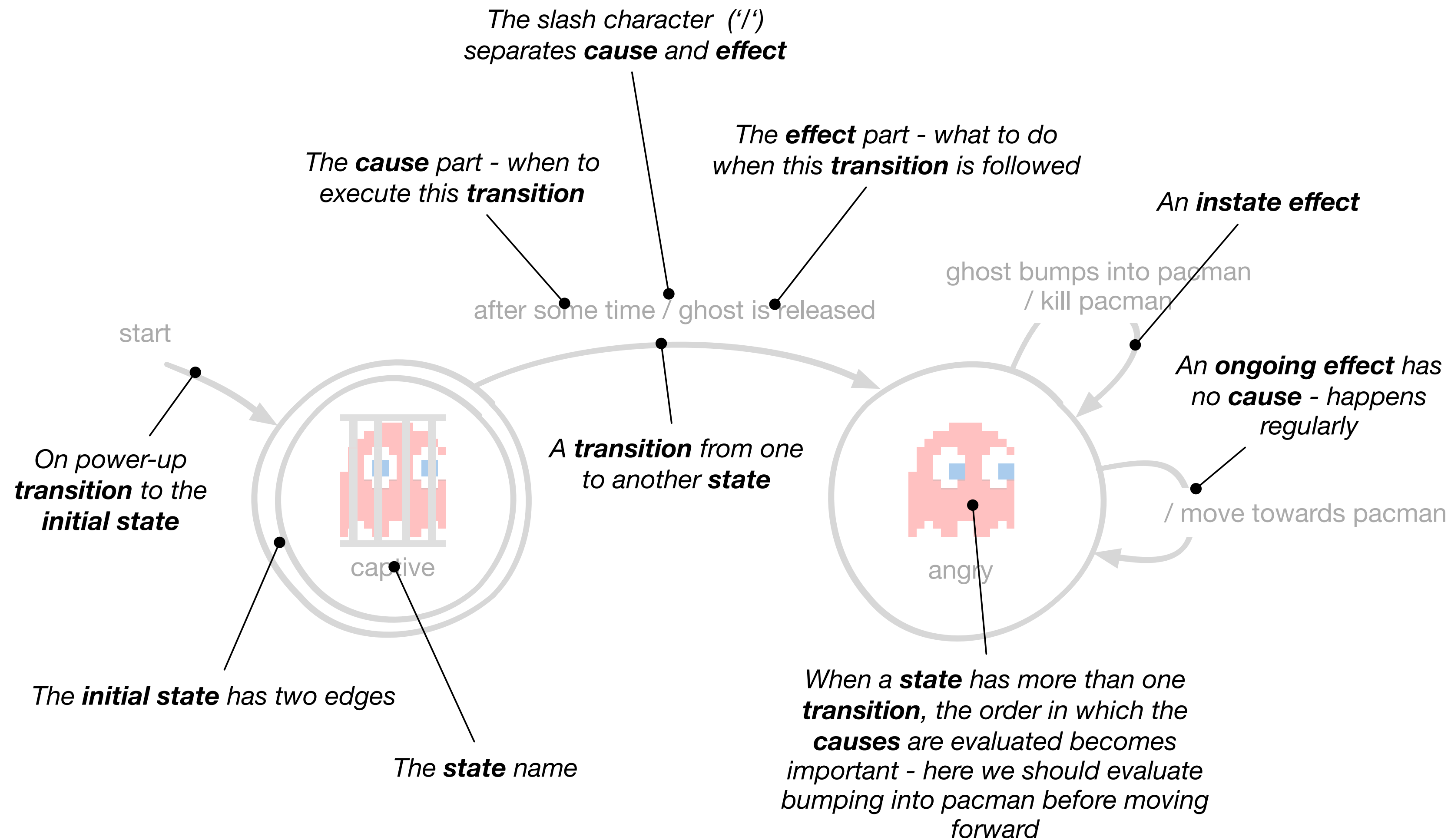
The Pomodoro Technique 🍅

1. Decide on the task to be done.

2. Set the pomodoro timer (traditionally to 25 minutes).

3. Work on the task.

4. End work when the timer rings and put a checkmark on a piece of paper.[5]

5. If you have fewer than four checkmarks, take a short break (3–5 minutes), then go to step 2.

6. After four pomodoros, take a longer break (15–30 minutes), reset your checkmark count to zero, then go to step 1

State machine diagram
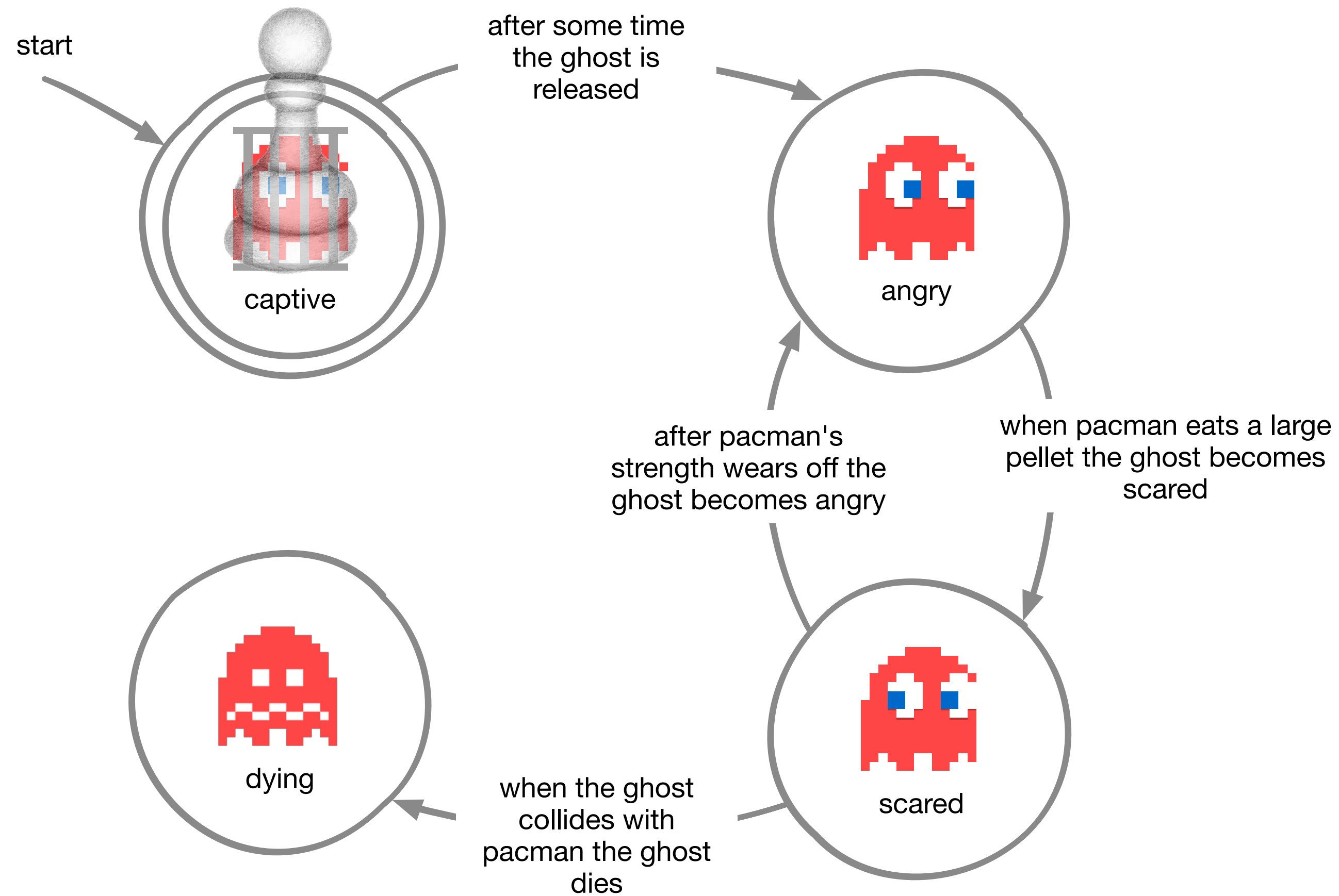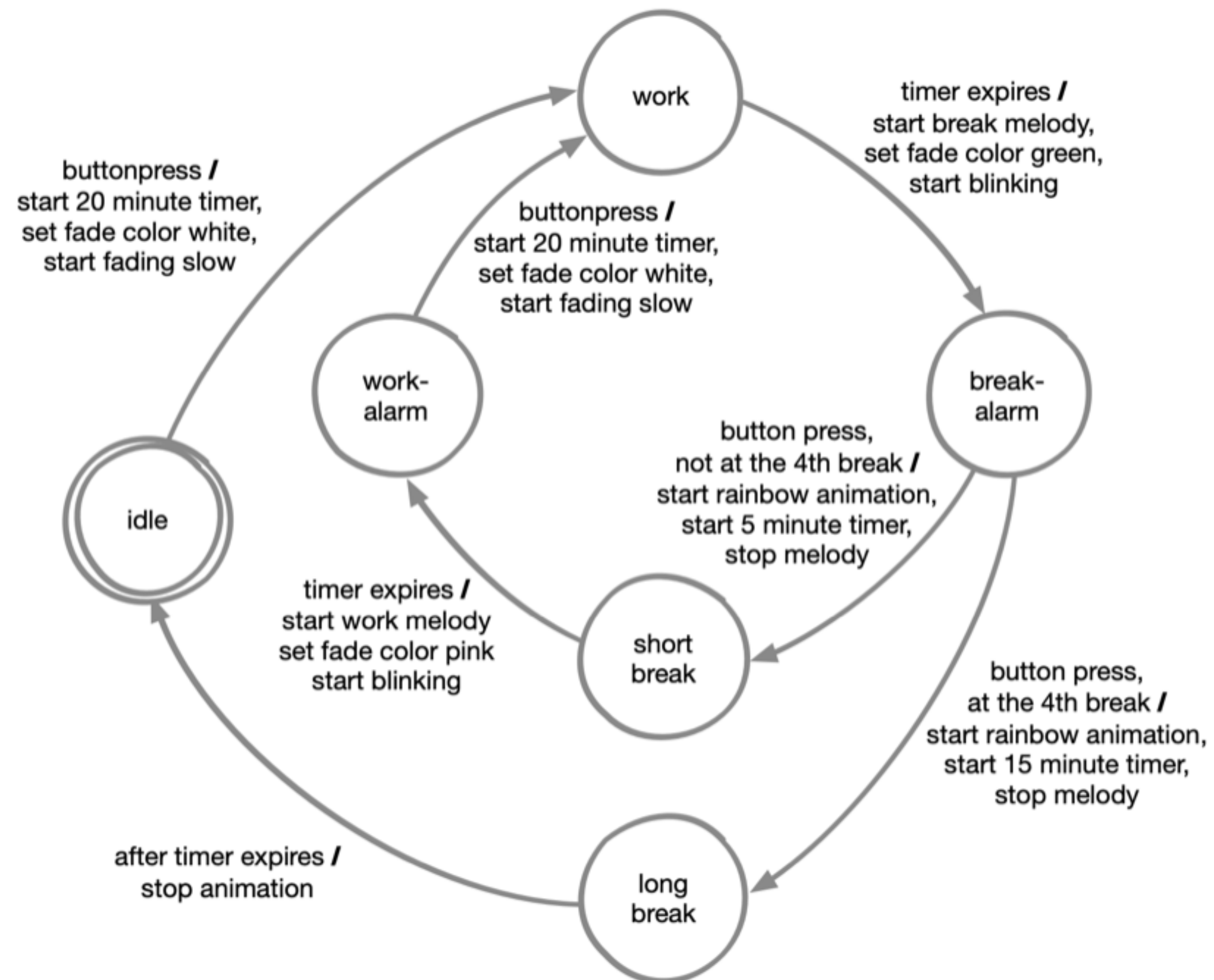

start

after some time
the ghost is
released

captive

angry

after pacman's
strength wears off the
ghost becomes angry

when pacman eats a large
pellet the ghost becomes
scared

dying

when the ghost
collides with
pacman the ghost
dies

scared

State machine diagram

*The slash character ('/') separates **cause** and **effect***

*The **cause** part - when to execute this **transition***

*The **effect** part - what to do when this **transition** is followed*

*An **instate effect***

ghost bumps into pacman / kill pacman

after some time / ghost is released

start

*An **ongoing effect** has no **cause** - happens regularly*

*On power-up **transition** to the **initial state***

*A **transition** from one to another **state***

/ move towards pacman

captive

angry

*The **initial state** has two edges*

*The **state** name*

*When a **state** has more than one **transition**, the order in which the **causes** are evaluated becomes important - here we should evaluate bumping into pacman before moving forward*

State machine diagram

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Pomodoro State machine

Pomodoro Timer
State Transition Table

from state	cause	effect	tostate
idle	button press	start 20 minute timer, set fade color white, start fading slow	work
work	timer expires	start break melody, set fade color green, start blinking	break alarm
break alarm	button press and this is not the 4th break	start rainbow animation, start 5 minute timer, stop melody	short break
break alarm	button press and this is the 4th break	start rainbow animation, start 15 minute timer, stop melody	long break
short break	timer expires	start work melody set fade color pink start blinking	work alarm
work alarm	button press	start 20 minute timer, set fade color white, start fading slow	work
long break	timer expires	stop animation	idle

CHALLENGE 9:

Can you finis filling in the last 4
states of the state machine?

HINTS:

1) The state transition table is your friend.