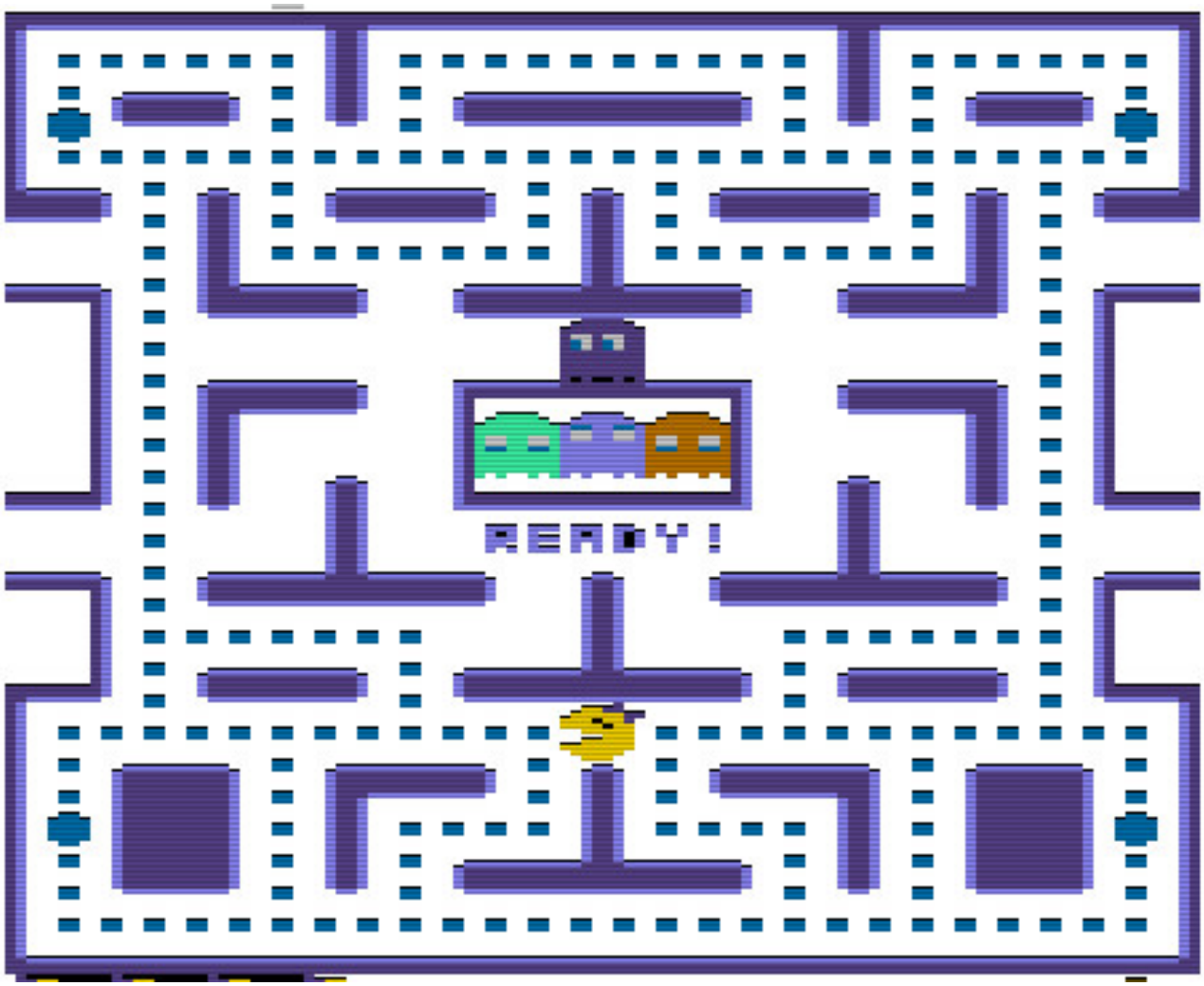
Creating a Pac-Man game



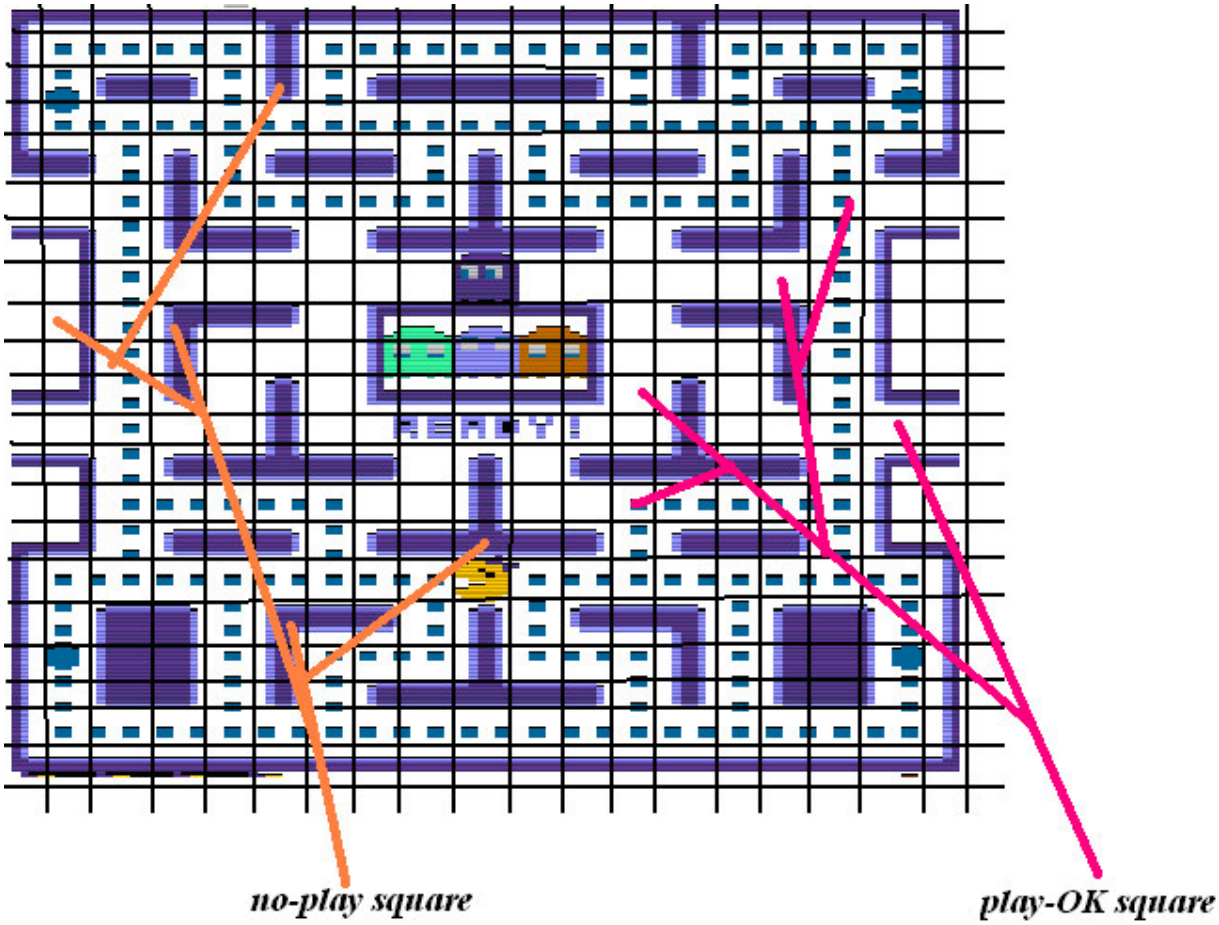
The game has

- visual images – static and animated
- player-chosen direction of pac-man
- AI-driven ghosts
- scoring
- lives
- levels
- sounds

How do you build it?

- Define the tiling
- Define the order of events in the program
- Gradually write the program, one logic part at a time – *e.g. display static maze, get pac-man to move, do collision detection, etc.*
- Add the actual graphics
- Add the sounds
- Tweak the AI
- Etc.

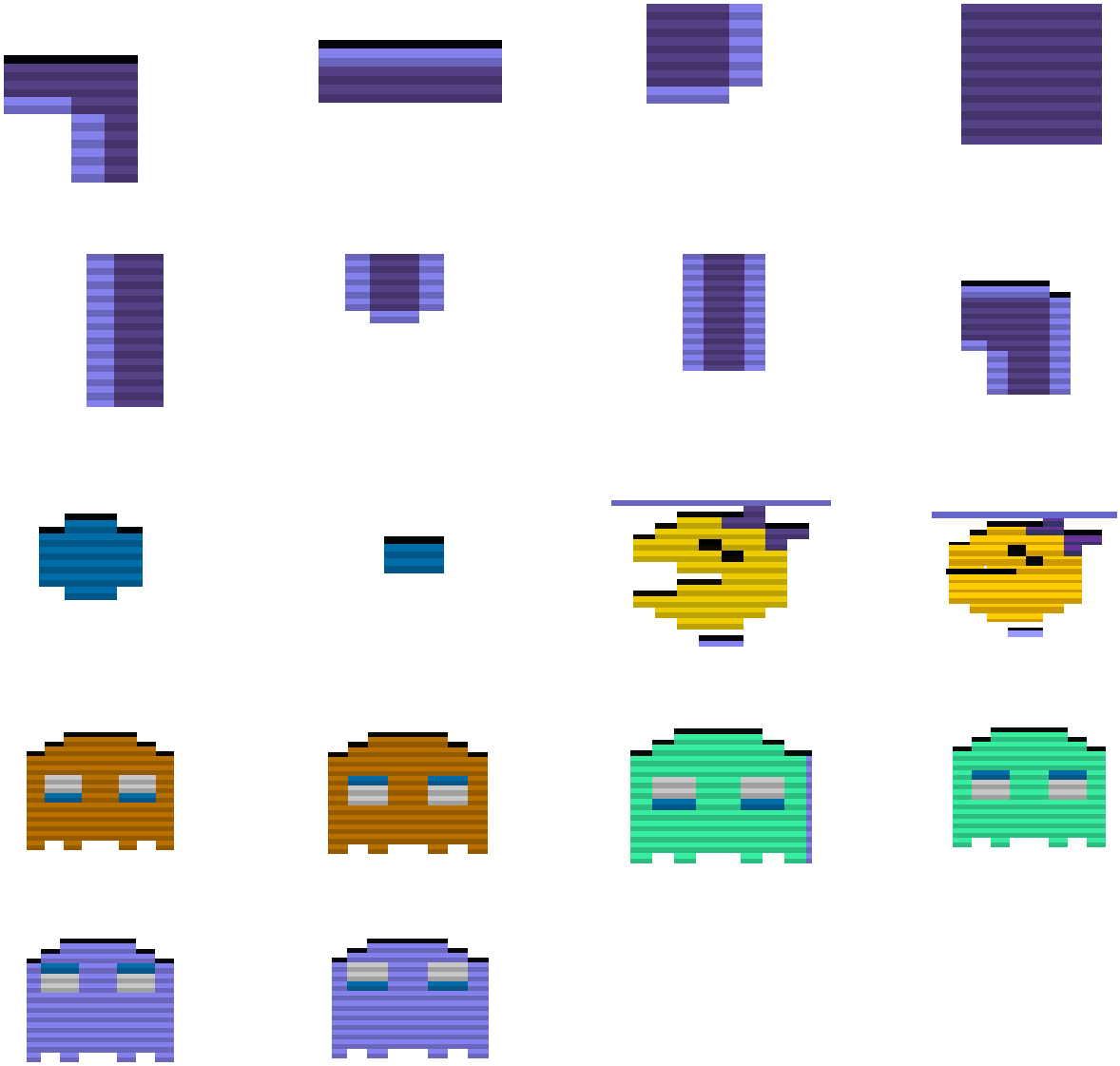
Tiling:



play-OK square – x, y, dot-type, graphic

no-play square – x, y, graphic

graphics: *surprisingly few*



Define program in *a pseudocode:*

1. Define array for tile properties (e.g. go/nogo, graphic type, etc.)

2. get graphics in

3. display array:

```
for x = 1 to max
    for y = 1 to max
      display graphic for array (x,y)
    end_for
end_for
```

3. define main program loop

```
until dead/won
    if array (x,y)+direction = OK
        update x or y
        move pac-man
        if dot_present at x,y
            dot_absent at x,y
        end_if
        won or dead?
    end_if
end_until
```

4. define get_key interrupt

```
event get-key
    if ↑→↓ or ←
        set new direction
    end_if
end_event
```