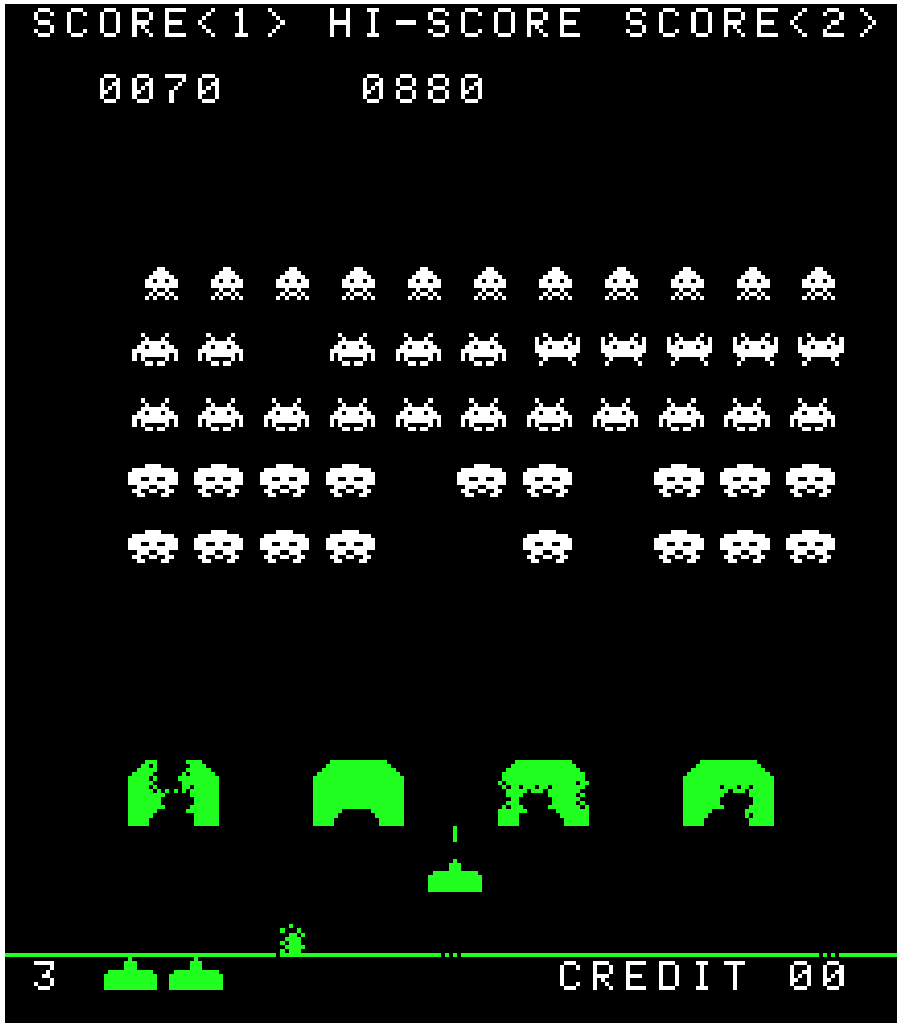
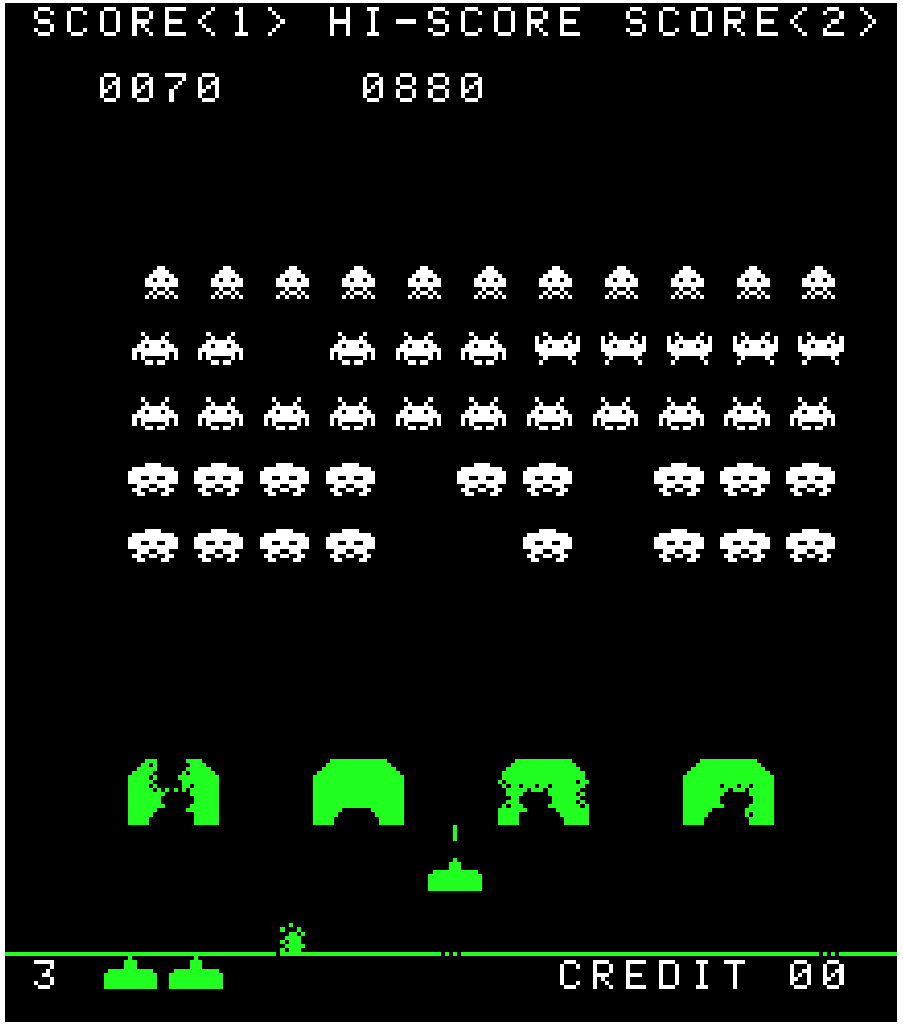

SPACE
INVADERS

What makes space invaders?



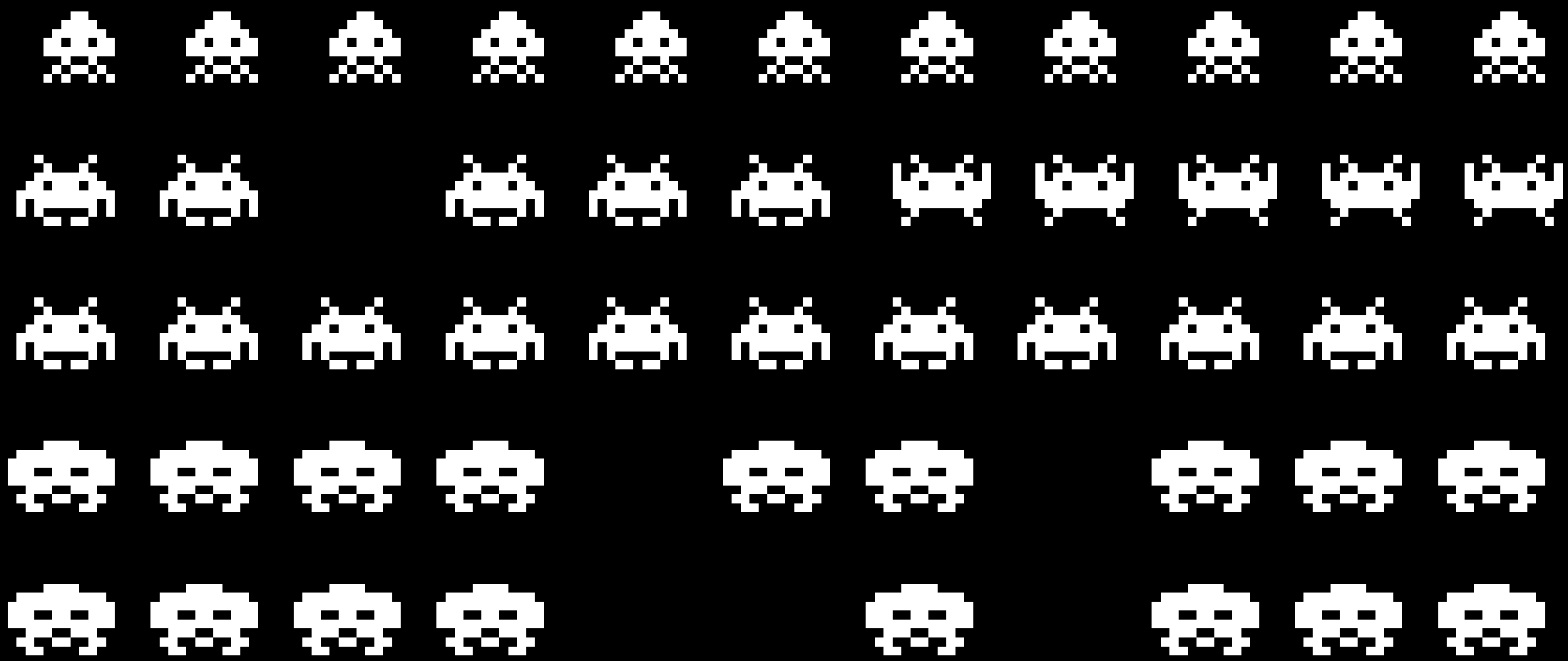
Key characteristics (requirements)

- Main shooter moves left and right
- The array of invaders that move together row by row when the left-most or right-most invader reaches the edge
- The invaders array speed of movement also increases
- The barriers that crumble as they are shot
- UFO boss that appears in intervals

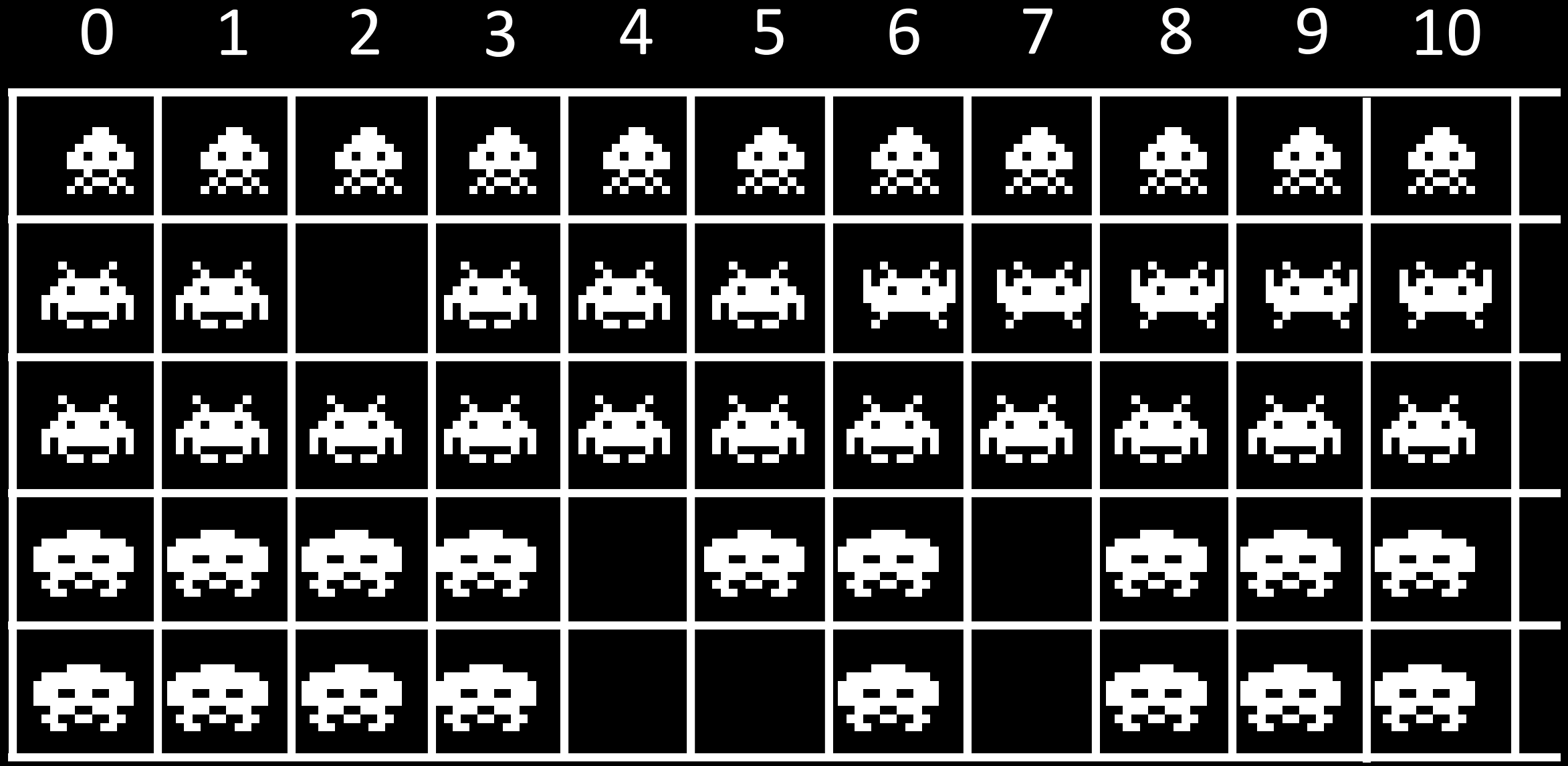


How do we design a solution to this?

- Main shooter moves left and right
  - Move coordinates (x) when respond to left and right key press
- The array of invaders
  - 2D array of graphics?
- How do we maintain the left and right-most invaders?
  - An x coordinate to keep a track of this?
- Edge detection – both for shooting and left/right edge
  - Compare x/y coordinates?
- Increasing speed of movement – variable?
  - The movement of x/y coordinates is multiplied by a speed variable?




0
1
2
3
4


0 1 2 3 4 5 6 7 8 9 10
0
1
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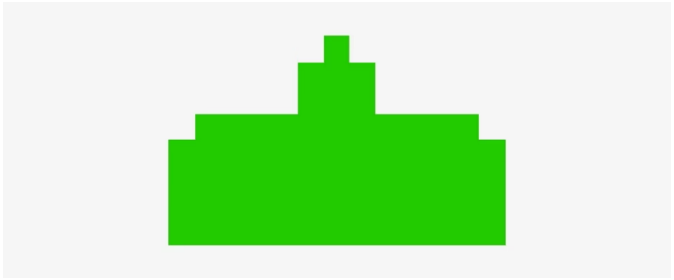
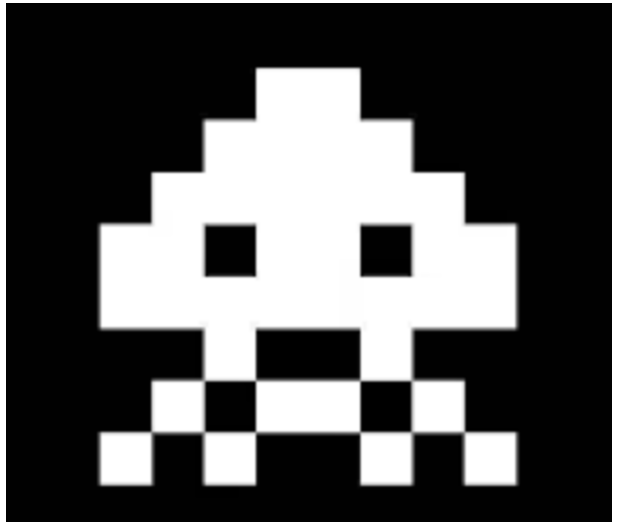
What about OOP?

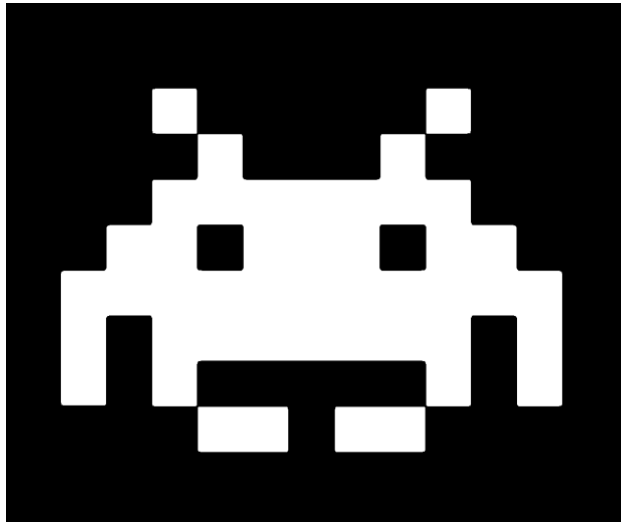
- Should we build some of these entities as classes? Is it worth it if they only have one object – like the main shooter?



At least three specialised types of invader

Do they share anything in common?
Could we use a well-known OOP concept here?

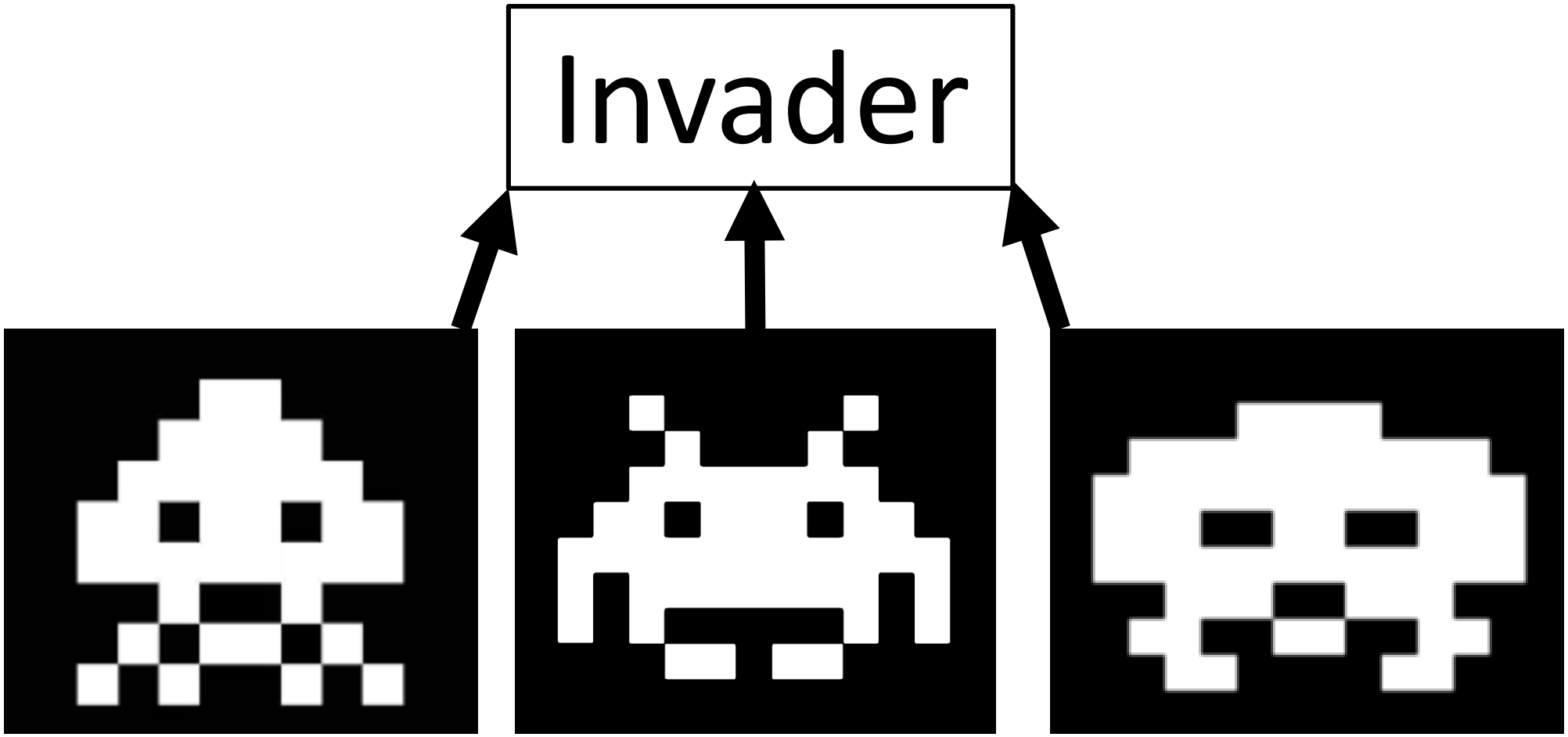




Inheritance?

Parent:

Children:



Implementation

Summary

- Establish key requirements – what makes Space Invaders unique?
- THINK about how possible solutions (design) BEFORE coding
- When you implement – build in stages – you could focus on building and testing one requirement/key feature at a time.