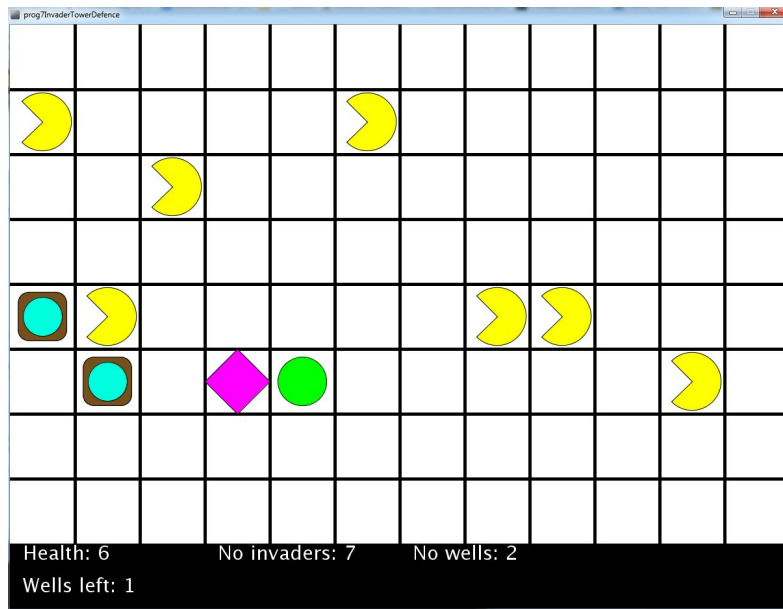# Project 2: Grid game

Steps to make this app:

1. Create the user.
2. Create the background
3. Make the movement system
4. Create the pickup booster

Creating the User:

We want a simple user:

- Use a simple shape or a image from online as the user icon.
- We need to move the user, so the user should have variables for the horizontal and vertical positions.
- Add keyboard input so the user can be moved around.

Create the background

1. We need a grid style background.
2. We want a `drawBackground` custom function that will draw this grid. We can change this later to make it more better looking. There should be space for the user icon to appear in each on the grids areas.

Make the movement system

1. Instead of the normal movement we want the user to jump from one grid location to another.
2. Adjust the movement code so that the user moves the direct distance from one grid location to another, every time you move it.

[the academy_of_code]

3. At the end of the step the user should be jumping around the grid.

Create the pickup booster

Class time!

This will be our first Class of this project.

This has all of the standard Class features - a constructor, position variables, a `isHit` and `drawBooster` method.

● Create them!

The booster also has a `moveBooster` method - that sets the position of the booster to a random position in the sketch.

Make it so the booster moves to this new random position when it gets hit **by the user.**

Extra!

The booster can also move around on a timer

Remember that from the target game? If not look up **millis** in the documentation. or go back to that sheet.

Have the booster move to a new **random** position - not only when it is hit by the user, but also after every new second. You will be a `nextTimeToMove` variable, that is checked every time the booster is drawn. If **millis** is greater than that - reset that to two seconds from now, and change the position of the booster.

Now you're finished! Congratulations!

You can do whatever you like with this program now! Have a look below for some ideas

What do you want to do?

● Make a booster collector game:
  ○ You can add a timer - like in the target app.
    ■ See how many you can get in a time limit
    ■ Or get extra time every time you collect a booster - how long can you last?
● Improve the graphics:
  ○ Add in images from the internet, for the:
    ■ User icon
    ■ Booster
    ■ Background
● Add a score panel at the top/bottom of the screen.

Advanced - ask an instructor if you have time to complete the below tasks:

● Add Enemies:
  ○ New class.
  ○ Move from right to left - on the grid.
  ○ How do you destroy them? With the user? 0or with traps below/

- - If you have more than one - you will have to store them in an arrayList - like the bullets in the shooter game.
- Add traps to damage the enemies.
  - Another class.
  - Created where the user is when you hit a button.
  - If you want lots of them you will need an array - like for the enimies or bullets in the shooter game.