

Introduction to programming.

Homework 5

Making a game in python.

In this assignment you have to make a very simple version of the Pacman game(the arcade game originally developed by Namco, in 1980).

You will need to use Pygame library to handle different steps in the game, like input, and rendering. You can go through a basic walkthrough for creating games:

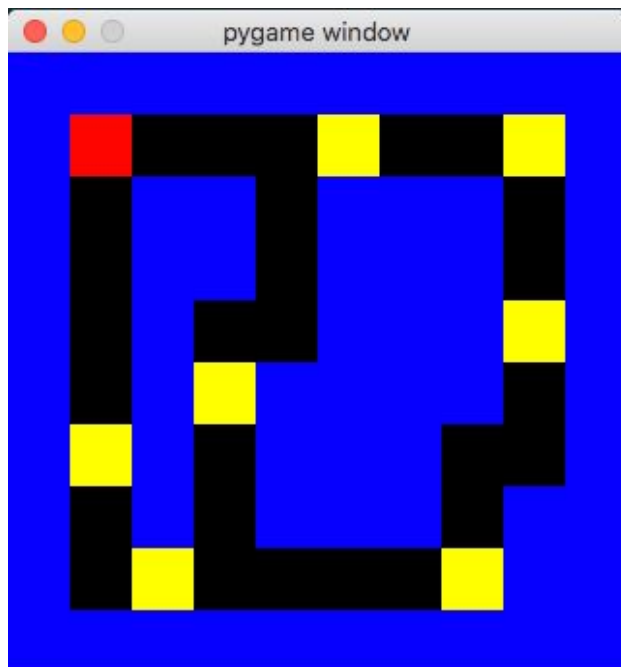
<https://www.pygame.org/docs/tut/MakeGames.html>

We have provided a starter code that you can use in your assignment. The code draws a board depending on layout from a text file and perform basic movement.

Starter code: <https://gist.github.com/PalashBansal96/0e57d50ef898073150f8533ffe838764>

(Requires python3 with pygame and numpy installed via pip)

This is how the starter code should look when running for the first time:



Here, red block denotes the player. Yellow are the coins, and blue are the walls that player cannot cross. Currently in the code, the player is hard-coded to always move down.

In the assignment you have to implement the following:

- Player movement with WASD or Arrow keys
- Coin collection
- Player score (Number of coins eaten)
- Player time (Time from the starting of the game)
- Simple enemies - These enemies will walk around randomly, the player should lose 1 point on getting in contact with them and reset the position to starting.
- A new level of size 20x20. The given board is sample of 10x10.
- Improve the graphics from simple rectangles to something unique. You can use different shaped polygons, custom images(sprites in pygame), circle, or even a combination of everything.

The final game that you made would be unique for each student. Feel free to tweak the game and graphics to your liking. You can add as many features as you want in the game and learn while doing so. Some cool suggestions:

- Make levels that enable warping around the board.
- Starting and ending positions.
- Portals in a level
- A side scrolling game (like Mario)
- A Player AI to collect all coins, in the least possible time.
- Power-ups for the player.
- Extend this to a snake game.