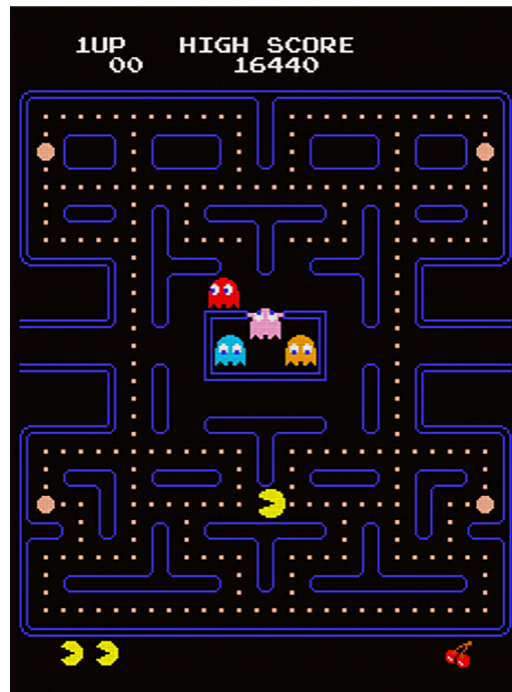


PACMAN

BA3145 Monday 9am - 12pm, Station 15: Viet Minh Nguyen & Shuja Khwaja



Idea:

- One level of Pacman game, with 1 live/game. Scores will be counted and displayed on the screen
 - Player character (spawns at the middle of the screen)
 - 3 ghosts placed at 3 corners of the map. The ghosts will stand still (or move slightly) in their own corner until the player enters the corner ($\frac{1}{4}$ of the map). The ghosts will then be activated and chase the player until the player exits the corner. Ghosts will always move slower than the player
 - The player will be able to move along non-wall regions on the map, using KEYS, a KEY will change the direction of motion
 - KEY0: move right
 - KEY1: move left
 - KEY2: move down
 - KEY3: move up
 - Player can eat powerups that will allow them to chase and eat the ghosts, number of powerups = number of ghosts
 - The ghosts will then try to run away from the player (move in opposite direction)
- Win condition: player ate all "dots" and ghosts on the screen.
- Lose: player got hit by a ghost/cannot eat ghost anymore
- An ending screen should then show up and the game can be restarted.

Implementation:

- Use C & VGA display. Implement on CPULator for testing
- Draw walls (only need to be done once, since walls will never change)
- Each while loop:
 - Update position / scores
 - Determine game logic based on inputs
 - Draw pacman + ghost + dots + scores as pixels to the backbuffer
 - Swap buffers (sends to VGA display)

Milestones:

- Draw the walls (recording all fixed wall pixels)
- Draw player + movement. Player movements should not be allowed if they hit the wall
- Ghosts movements do not collide walls
- Ghost chasing & end game conditions
- Powerups & change game state
- Dots
- Scores