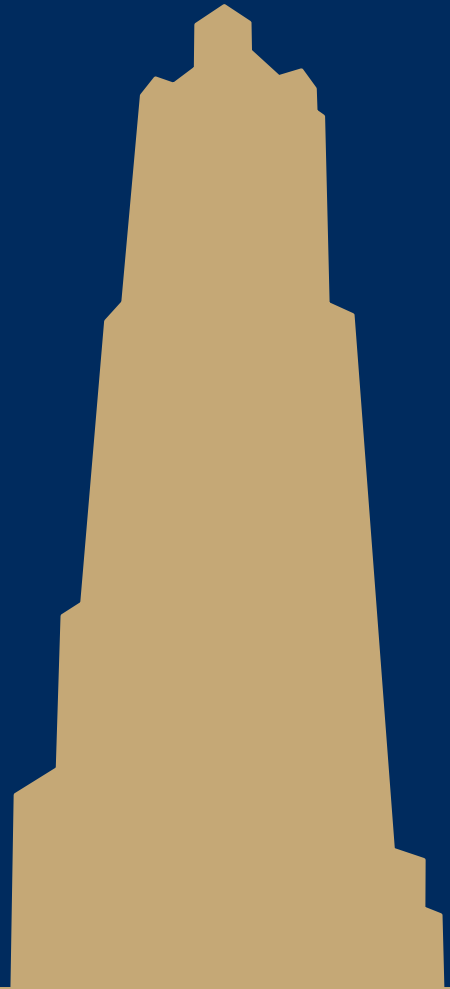


# CS 1666

[www.cs.pitt.edu/~nlf4/cs1666/](http://www.cs.pitt.edu/~nlf4/cs1666/)

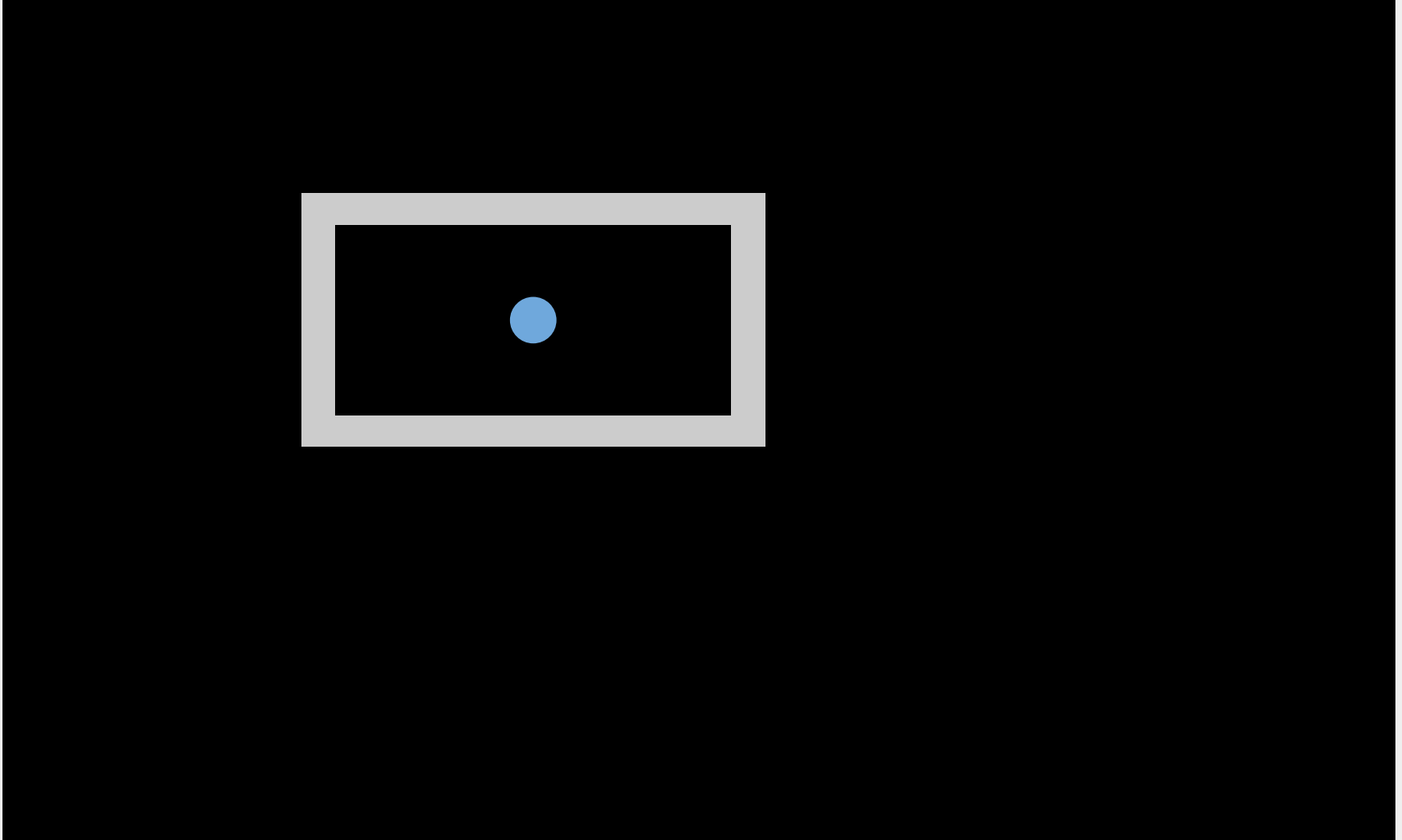
Tiling, scrolling, and animation



# Tiling

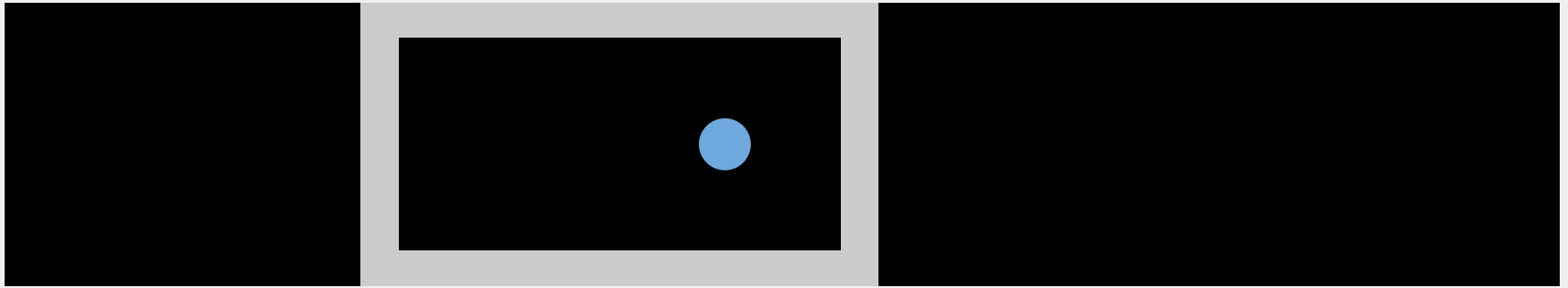
- Many 2D games are built off of *tiles*
  - Each tile being a block that is reused to build construct an overall scene
- Different tiles can be stored together in a single image file called a *sprite sheet*
- The `srcrect` argument to `SDL_RenderCopy` can be used to "clip" a section of the sprite sheet to be rendered

# Scrolling - top down



# Scrolling backgrounds

# Side-scrolling



# Animation

- Note our helicopter doesn't seem to actually be moving...
  - Need the player avatar to be animated
  - Use several sprites to represent the player, rotate through them to achieve animation
- Our helicopter also wasn't always facing the right way...
  - We can use `SDL_RenderCopyEx` instead of `SDL_RenderCopy` to horizontally flip our sprites to be facing the right way