

# Week eight

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## Sets — Groups of sprites

- Sets are unordered collections of unique objects. The initializer for Python sets is the function `set()`.
- Items can be added to and removed from a set using the methods `add()` and `remove()`, respectively.
- The item membership test for a set uses the keyword `in`.
- The methods `difference()` and `difference_update()` remove a set of items from a set and returns a new set or a mutated versions of the original set, respectively.
- Lecture examples - [Sets](#), [Set differences](#)
- More examples - [Set Structure](#)

## Animation — Sprite animation

- An animated sprite is drawn by striding the center of the source rectangle in `draw_image` through the animated sprite's associated tiled image.
- This stride is typically controlled by the sprite's age and size.
- This sprite's lifespan is used to terminate the animation.
- For the Spaceship and Asteroids mini-projects, the stride is always horizontal from left to right.
- Lecture examples - [Asteroid animation](#), [Explosion animation](#)
- More examples - [Running Bunny](#)

## Other Examples — [Balloon Pop \(collisions\)](#), [Project Template](#)

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