Welcome

DROP YOUR FAVORITE CANDY IN THE CHAT

Agenda

Let’s Talk Games

What are your favorite games?

Why do you enjoy playing these games?

A “good” Game vs. a “bad” Game.

What is Programming?

Python

Pygame & Pygame AI

Help Me Make My Game “good”!

Theme

Map

Sprites

Iterative Game Designing

Let's Talk Games

What are your favorite games?

Why do you enjoy playing these games?

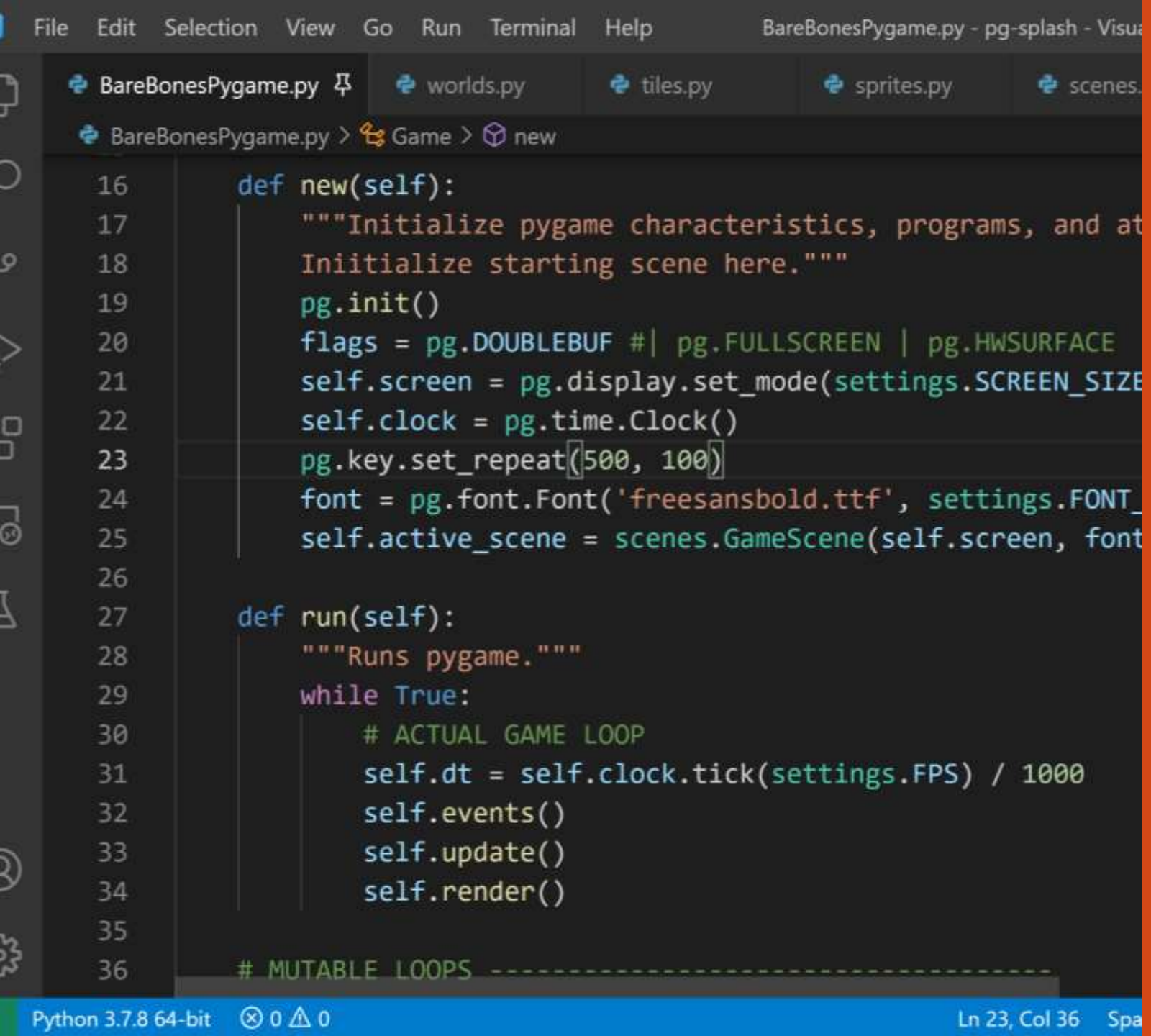
What is Programming?

Programming is the process of creating a set of instructions that tells a computer which tasks to execute. The **programming language** is the language used to instruct the computer.

For this project, the programming language **Python** is used.

The module **Pygame** is a free open-source library that acts as the engine for the game.

The module **Pygame AI** is used to control the player and **NPC**s (non-player characters) in the game.



Source Code

SOURCE CODE IS THE SET OF INSTRUCTIONS THAT TELL THE COMPUTER HOW TO EXECUTE THE GAME.

Help Me Make My Game "Good"!

- What makes a game "good"?
- What should the overall theme of the game be?
- What should the map look like?
- What should the player look like?
- What should enemies look like?

Why do you enjoy playing your favorite games?

What should the overall theme of the game be?

Task: Propose a theme for the game.

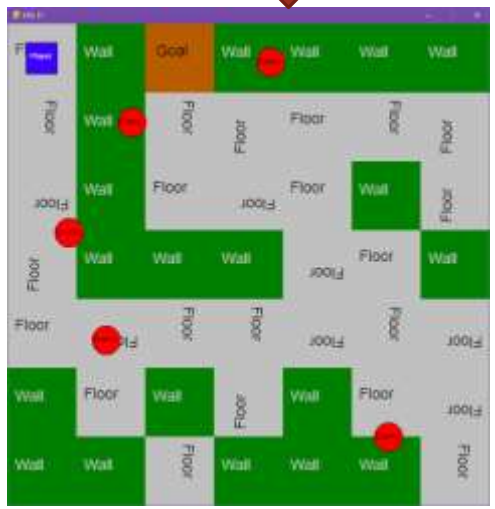
Guidelines:

- In groups of 5 brainstorm a theme, story, or motivation for the game.
- Anything goes for the theme, from the mundane to the fantastical!
- We will attempt to come to choose an overall theme for the game we create.

Guiding Questions

- What is the goal or challenge of the game?
- What inspired you to choose the theme?
- What message do you hope to convey with this theme?

1	0	2
1	0	1
1	0	1
1	0	0
1	1	1
1	1	1



The Game Map

An **array-backed grid** is a matrix or array of numbers that contains information about the grid. This allows for us to create a game map by associating specific numbers images for each element in the array.

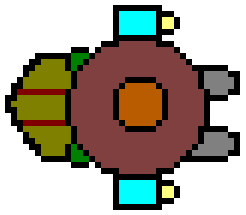
The matrix on the right represents the **array-backed grid** that is read by the game to generate the image on the right. Where,

- A wall tile is 0.
- A floor tile is 1.
- A goal tile is 2.

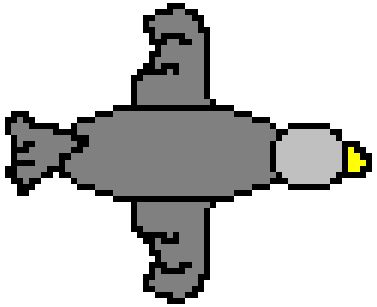
Game Sprites

A **sprite** is any 2-dimensional bitmap that exists in a larger scene. More simply, a **sprite** can be an image that is drawn on the map.

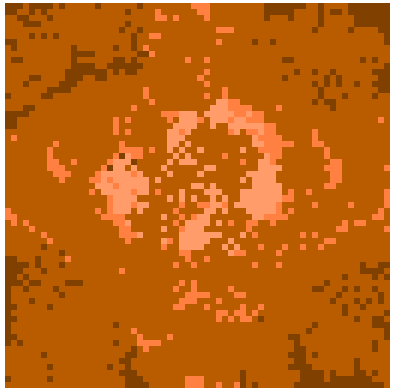
Can you guess the overall theme for the following sprites?



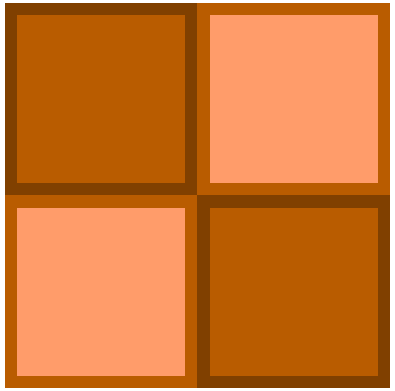
Player



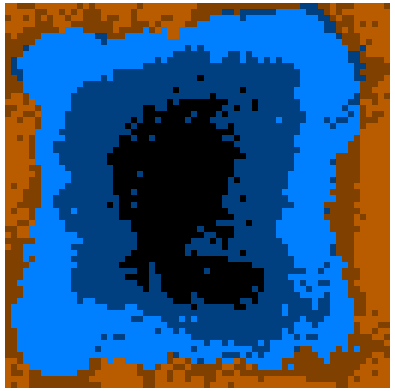
Enemy



Floor Tile



Wall Tile



Goal Tile

Design Your Own Sprites

Task: Design sprites using a paint tool (https://jspaint.app/), or on paper related to the theme!

You have **10 minutes** to design a sprite for one of the following:

- 1. Player
- 2. Enemy
- 3. Floor Tile
- 4. Wall Tile
- 5. Goal Tile

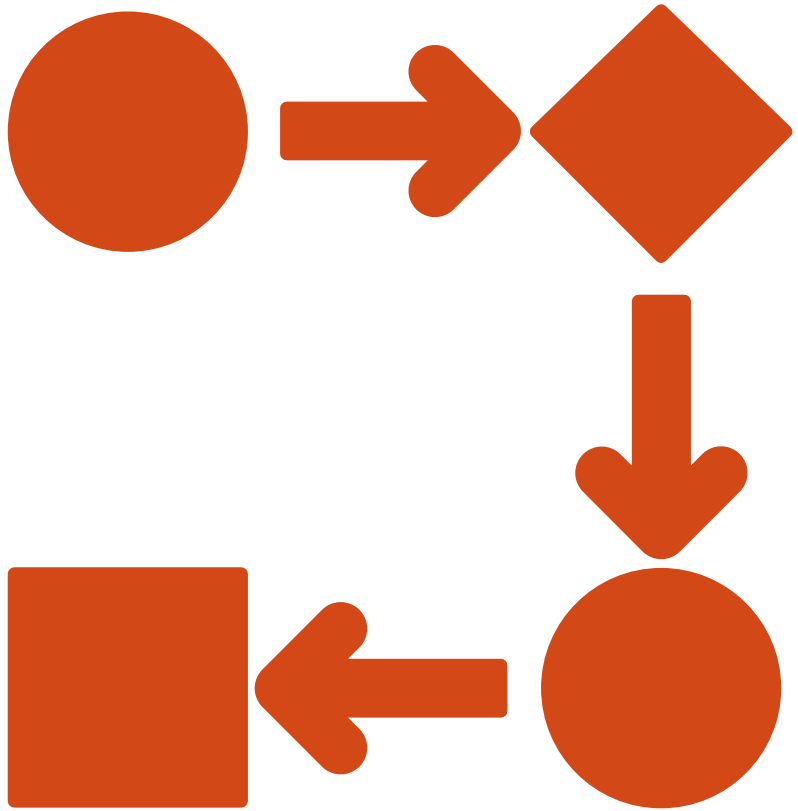
After the 10 minutes, spend **5 minutes** discussing the sprite you designed.

Guidelines:

- Assign roles: one person will design the player sprite, another will design the enemy sprite, and so forth.
- Once you are finished share with the people in your group your creation!

Guiding Questions

- What is the story behind the sprite you have created?
- Does the sprite fit the overall theme?



Iterative Game Design

Choose from four versions of the game.

First iteration: pygame-pygame_ai-game/1st-iteration at main · Saccharine-Coal/pygame-pygame_ai-game (github.com)

Second iteration: pygame-pygame_ai-game/2nd-iteration at main · Saccharine-Coal/pygame-pygame_ai-game (github.com)

Third iteration: pygame-pygame_ai-game/3rd-iteration at main · Saccharine-Coal/pygame-pygame_ai-game (github.com)

Fourth iteration: pygame-pygame_ai-game/4th-iteration at main · Saccharine-Coal/pygame-pygame_ai-game (github.com)

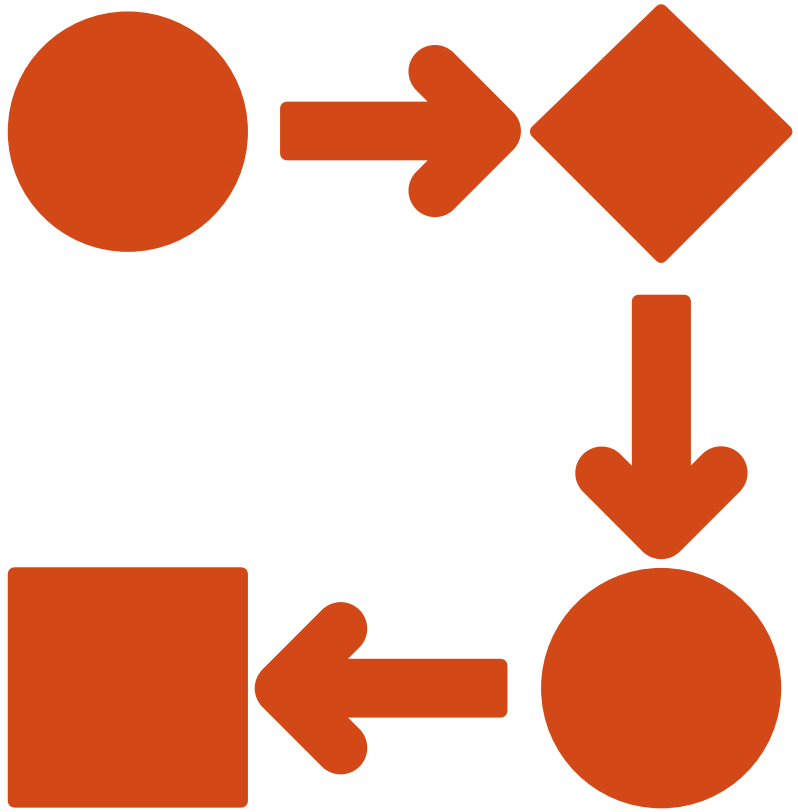
Full Game: pygame-pygame_ai-game/full-premade at main · Saccharine-Coal/pygame-pygame_ai-game (github.com)

Discuss with a partner who played a different version than you:

What did you like the best and least from the game you played.

How was your partner's version of the game different than yours?

What else can be added?



More Complex Games

Iterative game design, the process of repeatedly proposing, prototyping, play testing and reevaluating games, leads to more complex games!

How could our game be made more complex?

Thank You For Your Time!

WHAT DID YOU LIKE BEST FROM THIS PRESENTATION?