



James Godwin  
*the Brilliant thinker*

Maddy Whitney  
*the Awesome thinker*

Jannine G. D. MacGormain  
*the Fierce thinker*

# COURSE PROJECT: DUNGEON ADVENTURE 2.0

```
A path exists from the entrance to the exit.

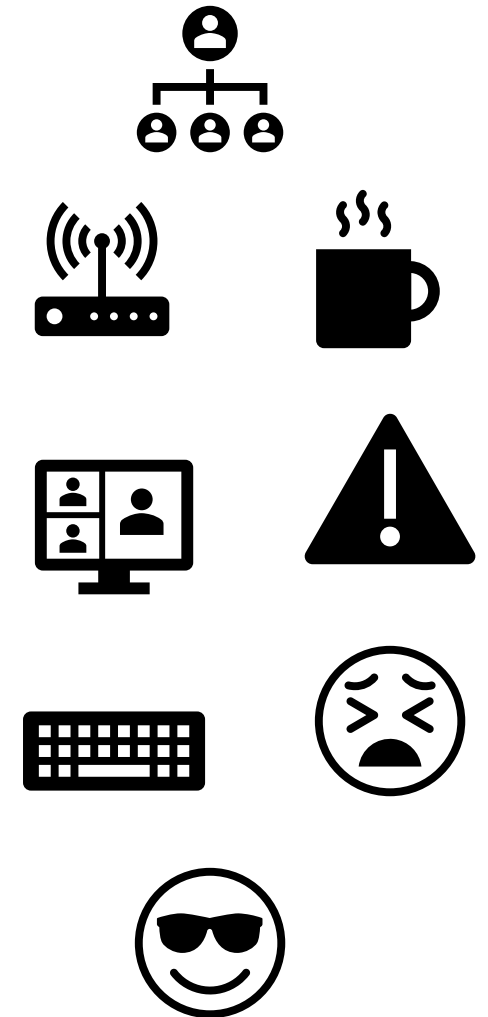
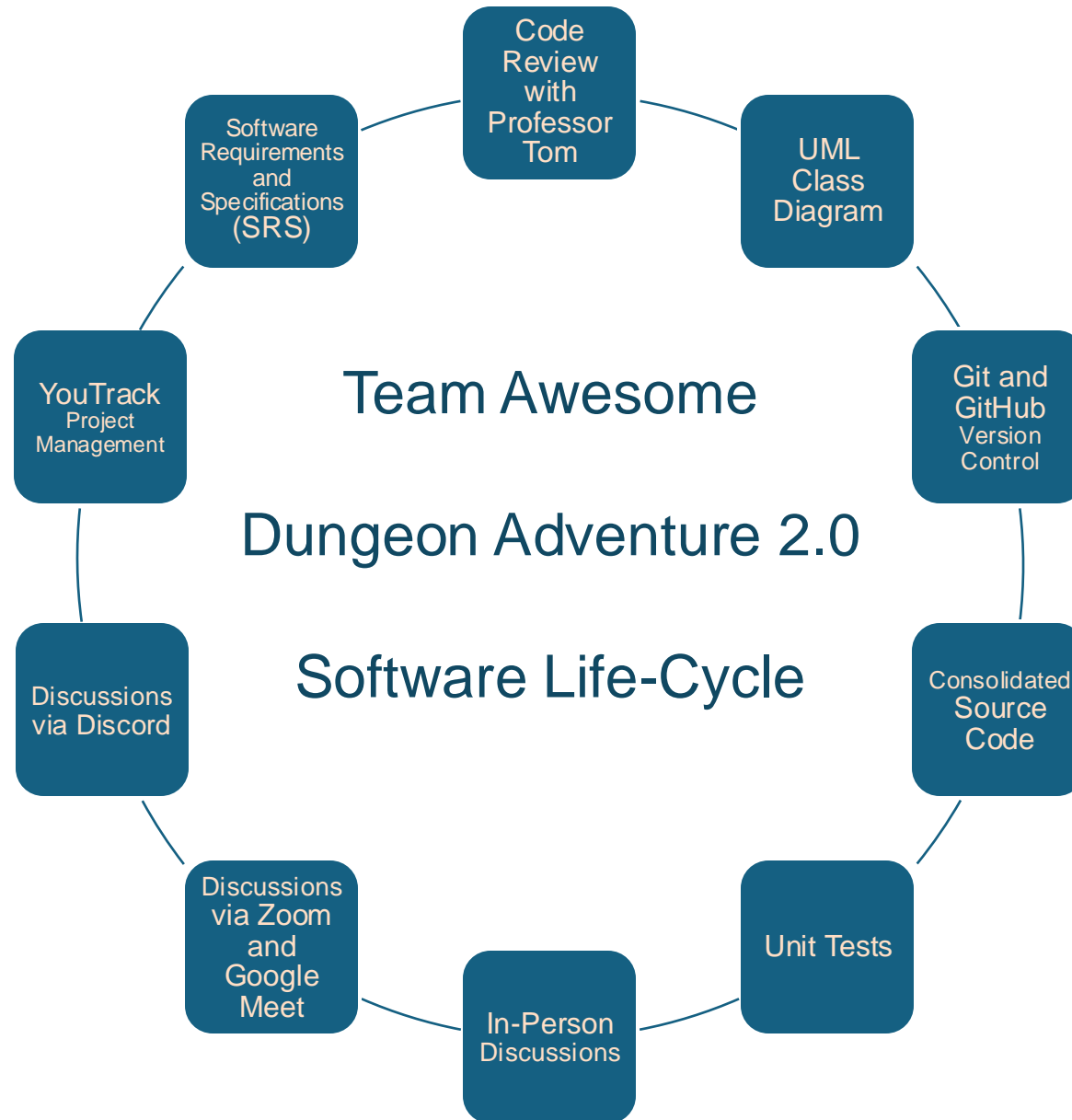
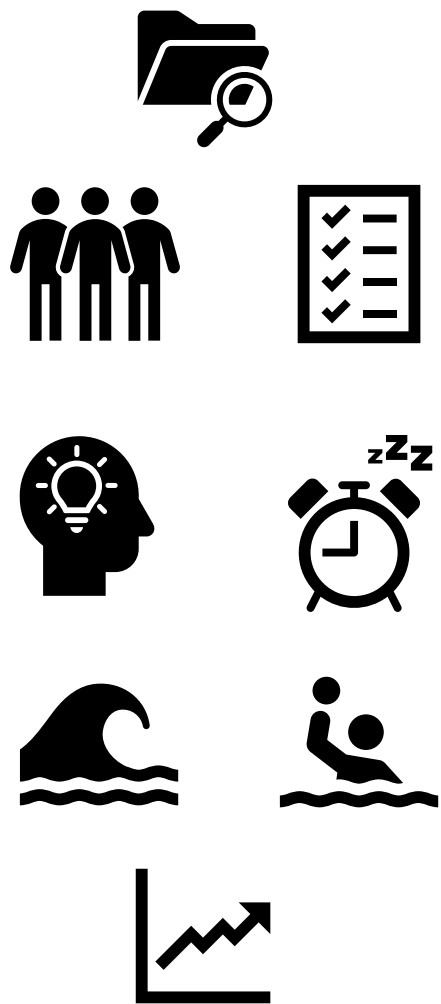
YOU ARE HERE!
Room(0, 0)      Room(0, 1)      Room(0, 2)      Room(0, 3)      Room(0, 4)
*-*            *-*            *-*            *-*            *-*
| i E V M |    * E H M *    * P H M *    | I M |    | i P V M *
***            ***            ***            ***            *-*

Room(1, 0)      Room(1, 1)      Room(1, 2)      Room(1, 3)      Room(1, 4)
*-*            *-*            ***            ***            *-*
* A H M |    * P H M *    * P V M |    | i I M |    * I V M |
*-*            *-*            *-*            ***            *-*

Room(2, 0)      Room(2, 1)      Room(2, 2)      Room(2, 3)      Room(2, 4)
***            ***            *-*            *-*            *-*
* i E V M |    * E V M *    * E H M |    * I M *    * i I M *
*-*            *-*            ***            ***            ***

Room(3, 0)      Room(3, 1)      Room(3, 2)      Room(3, 3)      Room(3, 4)
***            ***            ***            ***            *-*
* E V M |    * E V M *    * I H V M |    * I V M *    * P M *
***            *-*            *-*            *-*            ***

Room(4, 0)      Room(4, 1)      Room(4, 2)      Room(4, 3)      Room(4, 4)
*-*            *-*            *-*            *-*            *-*
* I M |    * P H M |    * E M *    * P V M |    * O A M |
*-*            *-*            ***            ***            *-*
```



## Course Project Overview

This project continues and enhances the Dungeon Adventure game developed in TCSS 502. It is designed for the project team members responsible for implementing and verifying the correct functioning of version 2.0 of the Dungeon Adventure game.

The implementation will adhere to object-oriented programming principles in Python.

The project aims to improve gameplay dynamics, apply the MVC (Model-View-Controller) and Factory design patterns, and incorporate an inheritance hierarchy for characters and items. It will utilize database management and pickling for data handling, implement version control using Git and GitHub, and plan tasks using YouTrack Project Management—all as part of the TCSS 504 course project.

## Software Requirements

- The software will run on macOS, Windows, and Linux operating systems with a minimum requirement of 4 GB RAM.
- The software will require a modern CPU (Central Processing Unit).
- A graphics card capable of rendering basic 2D graphics is required.
- Python 3.x or higher (preferably the latest stable version) is required.
- SQLite 3.x or higher (preferably the latest stable version) is required.



## Hardware Requirements

- Monitor (laptop or desktop)
- Keyboard
- Mouse

## Pending Decisions

- The choice of additional third-party libraries for enhanced graphics (e.g., for a standby GUI).
- Outstanding decisions regarding the implementation of multiplayer functionality.

Special  
Thanks to:

Professor Tom Capaul for the valuable learnings,  
guidance, dedication, and wisdom shared during  
the TCSS 504 course.

## References:

- Course Project guidelines and outline prepared by Professor Tom Capaul.
- Team discussions via Discord and collaborative task progress tracking through the GitHub repository and YouTrack project management.
- TCSS 502 Assignment 5: Putting it All Together - Dungeon Adventure!
- TCSS 504 Course Project: Trivia Maze, Dungeon Adventure 2.0, or File Watcher.
- [SRS Templates] TCSS 504 Software Requirements and Specifications (SRS) Assignment.
- Zoom lecture recordings and class modules prepared by Professor Tom Capaul.
- Class modules by Mr. Kevin Anderson.
- Class modules by Professor Varik Hoang.
- Class modules by Professor Robert Cordingly.
- Getting Started with Python by Fabrizio Romano et al.
- [Python Enhancement Proposal (PEP) process. GitHub public domain.]  
<https://github.com/python/peps/tree/main>
- <https://app.diagrams.net>

# Team Awesome – Dungeon Adventure 2.0

**James Godwin**

The Brilliant Thinker

## Main Job

Code Spikes and  
Implementations  
Manager

## Other Jobs

- Source Code Debugger
- Battle Fight Writer

## Key Contributions

- Implemented the Foundational Source Code.

**Maddy Whitney**

The Awesome Thinker

## Main Job

Git and GitHub Version Control  
Manager

## Other Jobs

- Source Code Debugger
- Battle Fight Writer

## Key Contributions

- UML Class Diagram: Initial and Final Draft.

**Jannine G. D. MacGormain**

The Fierce Thinker

## Main Job

YouTrack Course Project Management  
Manager

## Other Jobs

- Source Code Reviewer
- Battle Fight Writer
- Sprint(s) Deliverables Documentation Writer

## Key Contributions

- Software Requirements and Specifications (SRS): Initial and Final Draft.

# Team Awesome – Dungeon Adventure 2.0

James Godwin

The Brilliant Thinker

## Key Contributions

- Refactored Source Code.
- Implemented Foundational Database.
- Database Tester.
- In-person Discussion Facilitator.
- Created Source Code Docstrings.

Maddy Whitney

The Awesome Thinker

## Key Contributions

- Implemented the Foundational Source Code.
- Organized Python Modules into their respective directories.
- Refactored Source Code.
- Refined Database.
- Implemented Pickling.

Jannine G. D. MacGormain

The Fierce Thinker

## Key Contributions

- Organized and Combined working Source Code.
- Consolidated and Synchronized all working Source Code.
- Implemented 2D lists utilizing the import process for NumPy arrays (import numpy as np).
- Developed a breadth-first search (BFS) algorithm for dungeon maze traversal to ensure a valid path from the entrance to the exit.

# Team Awesome – Dungeon Adventure 2.0

James Godwin

The Brilliant Thinker

## Key Contributions

- Refined Foundational Playable Program from consolidated working source code.
- Debugged Source Code.
- Implemented Additional Classes.

Maddy Whitney

The Awesome Thinker

## Key Contributions

- Refined Foundational Playable Program from consolidated working source code.
- Hosted Zoom and Google Meetings.
- Debugged Source Code.
- Implemented Additional Classes.

Jannine G. D. MacGormain

The Fierce Thinker

## Key Contributions

- Implemented Foundational Playable Program from consolidated working source code.
- Refined Source Code.
- Implemented a standby GUI.
- Conducted Source Code Test Cases and Unit Tests.
- Created Meeting Agendas.
- Finalized Game Design and Mechanics.
- Created Course Project Presentation Slides.

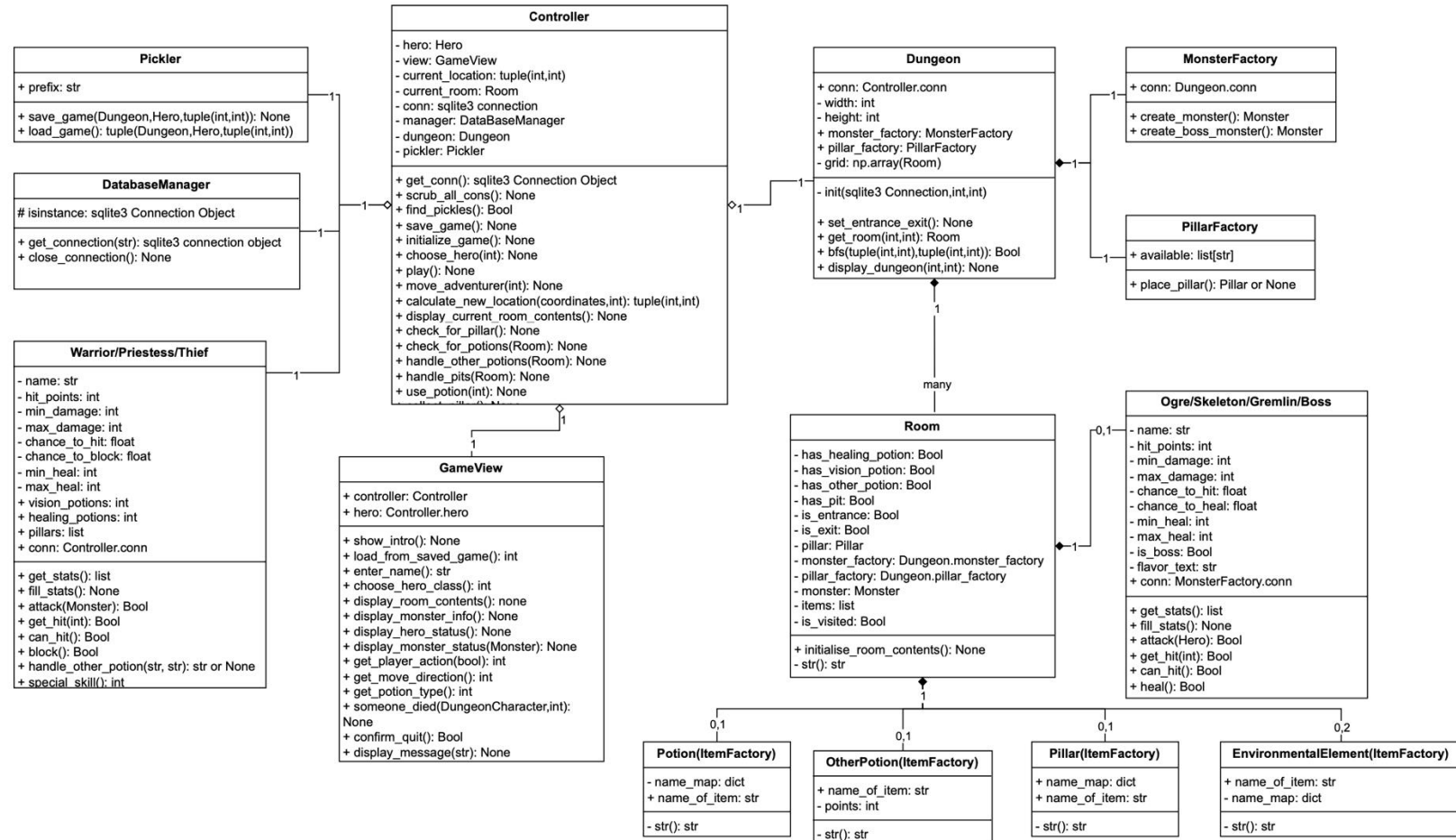


# Unified Modeling Language (UML)

## Class Diagram

Team Members:  
Maddy  
Jannine  
James

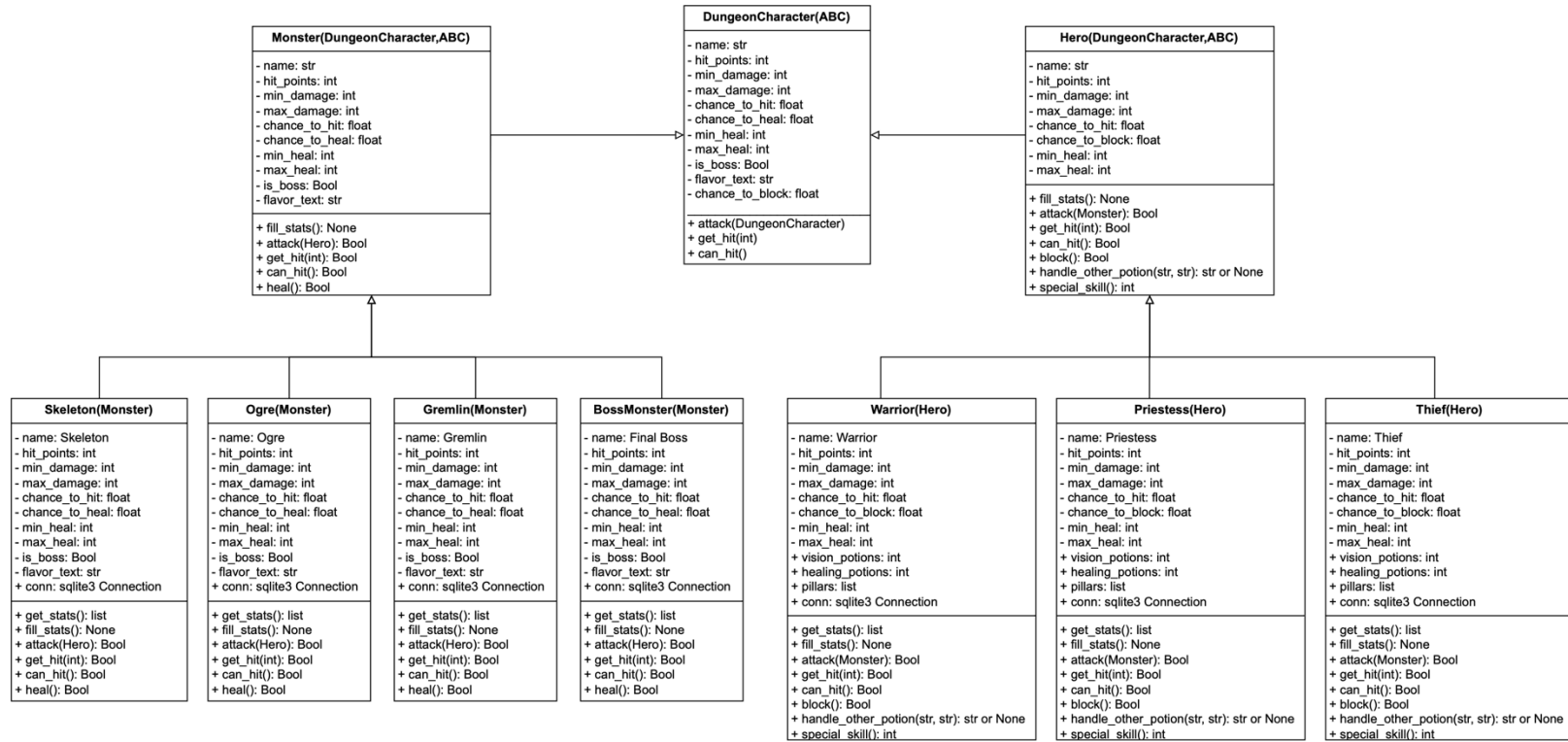
### Programme Architecture



# Unified Modeling Language (UML)

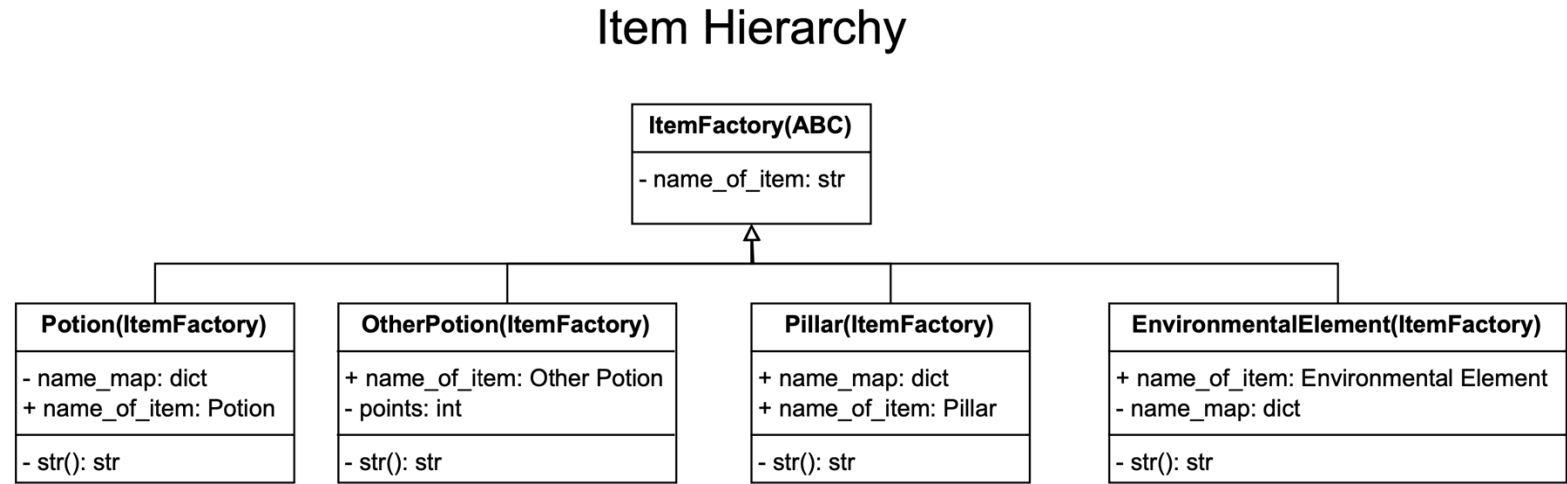
## Class Diagram

Character Hierarchy



# Unified Modeling Language (UML)

## Class Diagram



# Factory Design Pattern

- Separates the instantiation logic from the objects themselves.



Pillar  
Factory

The diagram consists of two factory boxes. The top box is labeled 'Pillar Factory' and the bottom box is labeled 'Monster Factory'. Both boxes are light blue with rounded corners and a dark blue border. They are positioned to the right of the main title and description. The 'Pillar Factory' box is slightly offset to the right and up from the 'Monster Factory' box.

Monster  
Factory

# MVC DESIGN PATTERN



The diagram illustrates the MVC Design Pattern with three components: Model, View, and Controller. Each component is represented by a light blue rounded rectangle with a dark blue border and a dark blue shadow, arranged horizontally. The text 'Model', 'View', and 'Controller' is centered within each respective box.

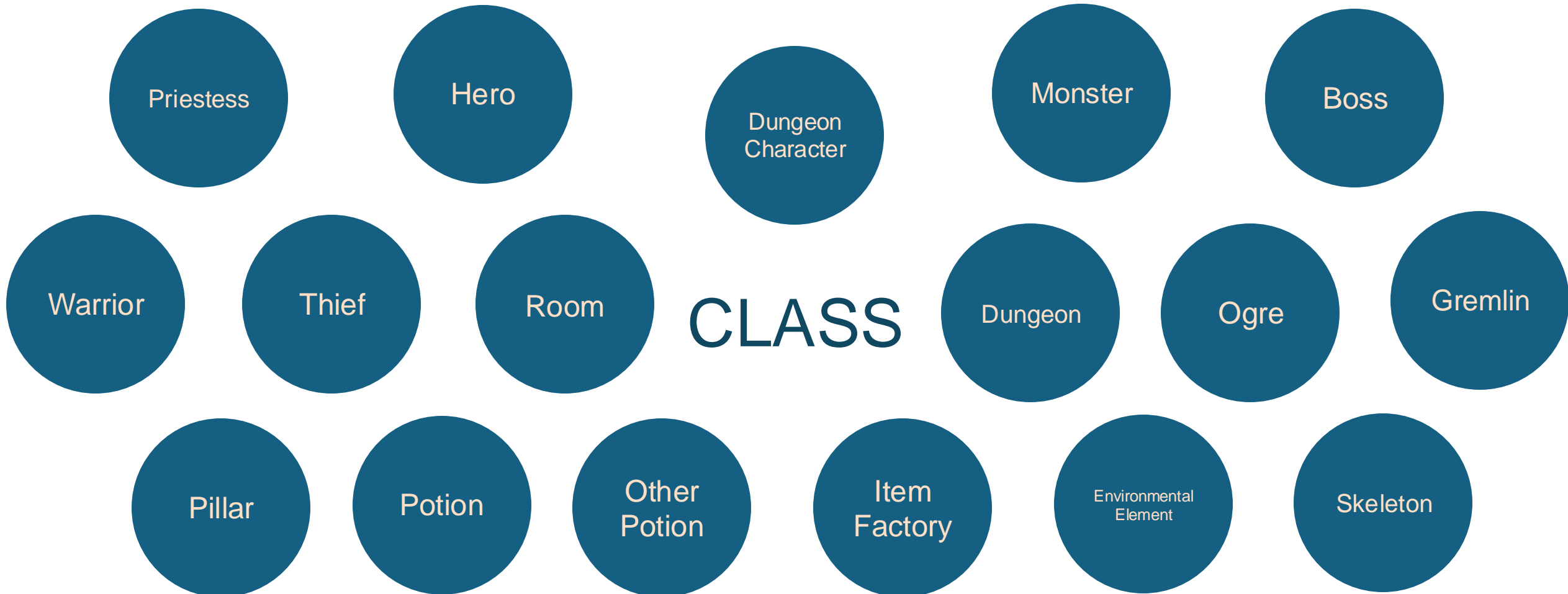
Model

View

Controller

# Model

Contains business logic and data.



# View

Renders the model into a form suitable for interaction, typically as a user interface element.  
Multiple views can exist for a single model for different purposes.

Class

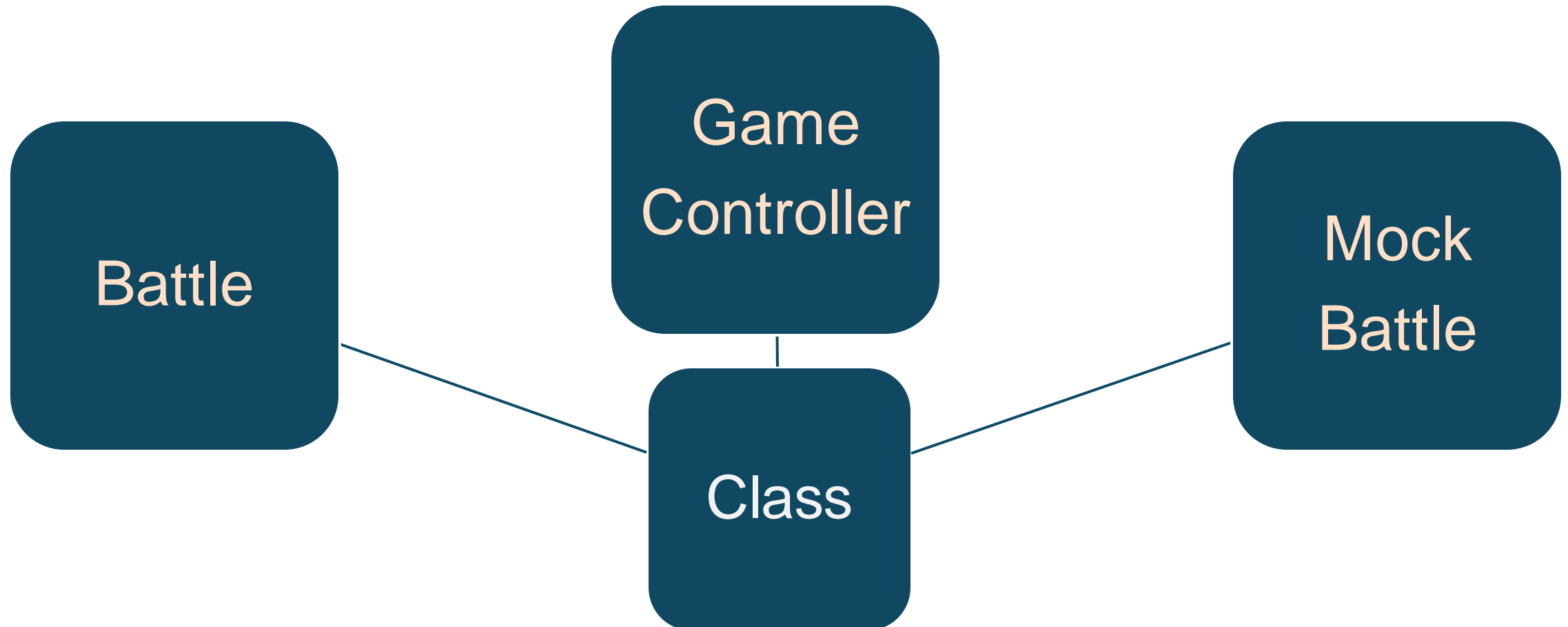
GameView

A diagram illustrating the relationship between a Class and a GameView. On the left, a dark blue rounded rectangle contains the word "Class" in white. A large, dark blue arrow points from this rectangle towards the right. Inside the arrow, the word "GameView" is written in a light orange color.

# Controller

Passes user input from the VIEW to the MODEL, as necessary. The MODEL changes its state and notifies the VIEW.

It is responsible for calling input methods from the GameView class and processing the results, maintaining the separation of concerns.





In  
progress



Database

Pickling

madswh

Q

Type / to search


Overview

Repositories 1

Projects

Packages

Stars 1




madswh

Follow

0 followers · 3 following

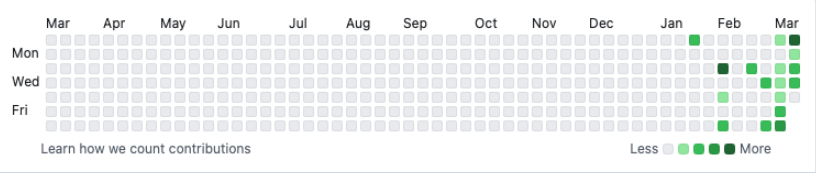
Block or Report

**Pinned**


[504DA\\_0306](#)
Public

Python

45 contributions in the last year



Learn how we count contributions

2025


2024

2023

2022

**Contribution activity**


March 2025




Created 26 commits in 2 repositories

[madswh/504DA\\_0306](#) 21 commits




[madswh/504DungeonAdventure\\_new](#) 5 commits



Created 1 repository



[madswh/504DA\\_0306](#)

Python · Built

by   

Mar 6


February 2025




Created 12 commits in 2 repositories

[madswh/504DungeonAdventure](#) 10 commits




[madswh/504DungeonAdventure\\_new](#) 2 commits




Created 2 repositories


[madswh/504DungeonAdventure\\_new](#)




Python · Built

by   

Feb 26


[madswh/504DungeonAdventure](#)

Python · Built

by   

Feb 4

# Git and GitHub Version Control Overview

jagthegr

Overview

Repositories 14

Projects


Packages

Stars

Q

Type ↵ to search

+



James Godwin

jagthegr · he/him

Follow

1 follower · 0 following

Highlights

☆ PRO

Block or Report

Popular repositories

week1

Forked from [Garcix/week1](#)

Public

week2

Forked from [JamesonClark/week2](#)

Public

week4

Forked from [lembckeb/week4](#)

Public

syllabus

Forked from [peterdt1/syllabus](#)

Syllabus for PHYS434 Fall'15

Public

week3

Forked from [LPope/week3](#)

Public

week5

Forked from [LCueva/week5](#)

Kundt's Tube

LabVIEW

Public

53 contributions in the last year

Mar

Apr

May

Jun

Jul

Aug

Sep

Oct

Nov

Dec

Jan

Feb

Mar

Mon

Wed

Fri

Learn how we count contributions

Less  More

2025

2024

2023

2022

2021

2020

2019

2018

2017

2016

2015

Contribution activity

March 2025

Created 42 commits in 2 repositories

[madsw/504DA\\_0306](#) 30 commits

[madsw/504DungeonAdventure\\_new](#) 12 commits

February 2025

Created 1 commit in 1 repository

[madsw/504DungeonAdventure](#) 1 commit

Opened 1 pull request in 1 repository

[madsw/504DungeonAdventure](#) 1 open

[James'-branch](#)

Feb 17

JgdmSDE89

Q

Type ↗ to search

Overview

Repositories

3

Projects

Packages

Stars

JgdmSDE89

Q

Type ↗ to search

Overview

Repositories

3

Projects

Packages

Stars

| YouTrack Project Management Report |  |  |  |
|------------------------------------|--|--|--|
| Sprint                             | Task Cards   | Problem Encountered  | Lessons Learned  |
| Sprint 0                           | No Task Cards created yet.<br><br>Analysis and Planning Phase  | No problems encountered thus far!  | This is just the beginning of what's coming!   |
| Sprint 1                           | 8 Task Cards:<br><br>Screenshots of the task card details are attached to the First Iteration Deliverables | The initial learning curve for YouTrack was a bit confusing; however, the team successfully navigated its functionalities. | Trust in each other's strengths. Help each other. We are not Team Awesome for nothing! |

| YouTrack Project Management Report |   |  |  |
|------------------------------------|---|--|--|
| Sprint                             | Task Cards  | Problem Encountered                              | Lessons Learned                                    |
| Sprint 2                           | 9 Task Cards:<br><br>Screenshots of the task card details are attached to the Second Iteration Deliverables | Trial and error code spikes and implementations. | Relax and chill; there's no free laptop out there! |

# YouTrack Project Management Report

| Sprint   | Task Cards   | Problem Encountered  | Lessons Learned  |
|----------|--|--|--|
| Sprint 3 | <p>11 Task Cards:</p> <p>Screenshots of the task card details are attached to the Third Iteration Deliverables</p> | <p>Ideas are diverging:<br/>Key 1 traversed Node A.<br/>Key 2 traversed Node B.<br/>Key 3 traversed Node C.</p> <pre>from abc import ABC, abstractmethod class TeamAwesome(ABC):     @abstractmethod     def __init__(self, name)         self.__name = name      @property     def name(self):         return self.__name     @name.setter     def name(self, name)         self.__name = name      @abstractmethod     def functions(self):         pass</pre> | <p>Communication is the key.<br/>If not, conversation is locked!</p> |

# YouTrack Project Management Report

| Sprint   | Task Cards  | Problem Encountered  | Lessons Learned  |
|----------|---|--|--|
| Sprint 4 | <p>18 Task Cards:</p> <p>Screenshots of the task card details are attached to the Fourth Iteration Deliverables</p> | <p>The initial merging of the final phase of the working source codes was challenging; however, the team managed to combine, organize, synchronize, and make the program work.</p> | <p>Laugh at your program errors. If you don't, you will cry over it!</p> |



# YouTrack Project Management Report

| Sprint   | Task Cards  | Problem Encountered  | Lessons Learned  |
|----------|---|--|--|
| Sprint 5 | <p>24 Task Cards:</p> <p>Screenshots of the task card details are attached to the Final Formal Iteration Deliverables</p> | <p>Integrating the working source code to establish a connection with the database was overwhelming.</p> <p>Paying close attention to relative and absolute paths.</p> | <pre>def initialize_team_awesome_brain(self):<br/>    print("1. James – the Brilliant thinker!")<br/>    print("2. Maddy – the Awesome thinker!")<br/>    print("3. Jannine – the Fierce thinker!")<br/><br/>    while True:<br/>        try:<br/>            brainstorming = int(input("Please think!: "))<br/>            if brainstorming in [1, 2, 3]:<br/>                return brainstorming<br/>            else:<br/>                print("Invalid brain! Please select a valid brain.")<br/>        except ValueError:<br/>            print("Brain is not functioning!")</pre> |

# YouTrack Project Management Report

Total Time Spent (from Sprint 1 to Sprint 5):

YT

YouTrack

✓

Issues

📊

Dashboards

📅

Agile Boards

📈

Reports

📁

Projects

📖

Knowledge Base

🕒

Timesheets

📊

Gantt Charts

Reports / YouTrack Project Management Report ▾ ⋮

TeamAwesomeDungeonAdventure2.0(TCSS 504), <no query>

Timesheet report

per user

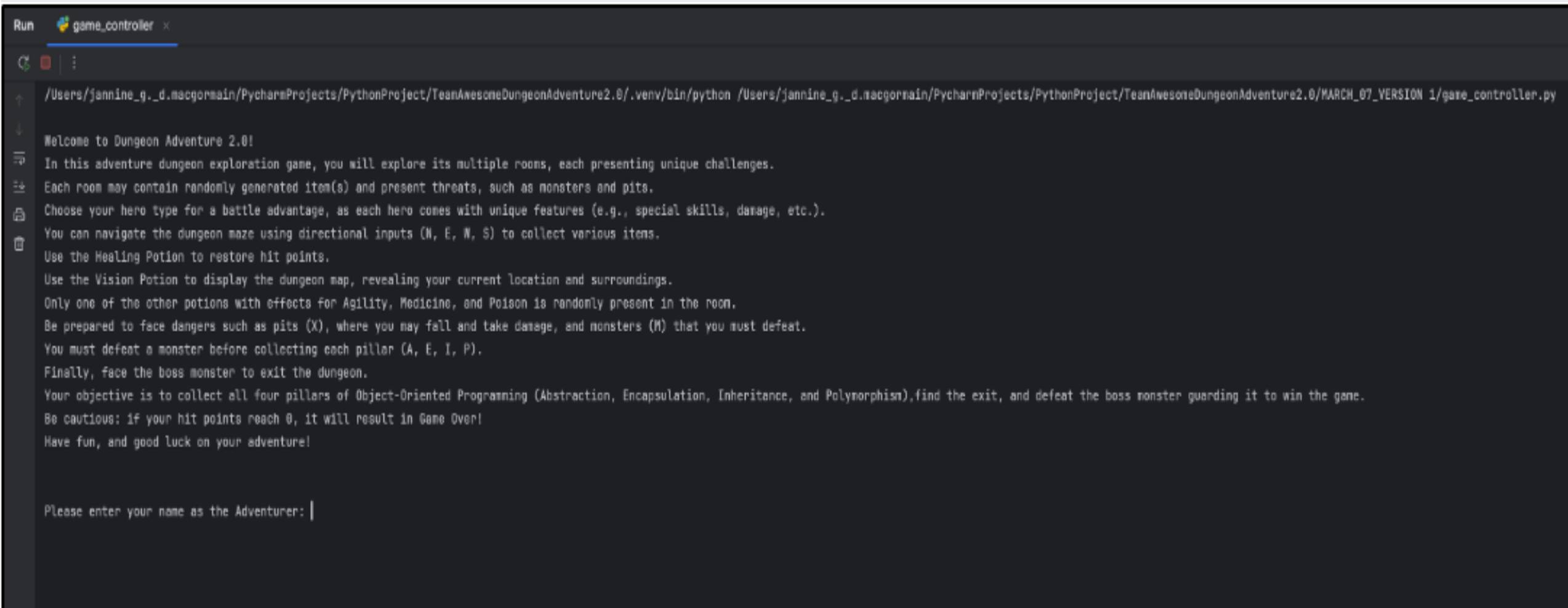
per issue

|                            |          | Feb      |         |         |         | Mar     |
|----------------------------|----------|----------|---------|---------|---------|---------|
| Users                      |          | 03-09    | 10-16   | 17-23   | 24-02   | 03-09   |
| Total time                 |          | 286h 04m | 30h 59m | 38h 00m | 49h 35m | 69h 45m |
| <div>JA</div> Jannine      | 194h 30m | 14h 30m  | 24h 00m | 36h 00m | 53h 00m | 67h 00m |
| <div>MA</div> maddy        | 44h 59m  | 8h 29m   | 4h 30m  | 3h 30m  | 7h 00m  | 21h 30m |
| <div>JG</div> James Godwin | 46h 35m  | 8h 00m   | 9h 30m  | 10h 05m | 9h 45m  | 9h 15m  |

# COURSE PROJECT: TEAM AWESOME - DUNGEON ADVENTURE 2.0

## Game Design and Mechanics:

### 1. Game Introduction and Welcome Message:



```
Run game_controller x
/Users/jannine_g._d.macgornain/PycharmProjects/PythonProject/TeamAwesomeDungeonAdventure2.0/.venv/bin/python /Users/jannine_g._d.macgornain/PycharmProjects/PythonProject/TeamAwesomeDungeonAdventure2.0/MARCH_07_VERSION_1/game_controller.py

Welcome to Dungeon Adventure 2.0!
In this adventure dungeon exploration game, you will explore its multiple rooms, each presenting unique challenges.
Each room may contain randomly generated item(s) and present threats, such as monsters and pits.
Choose your hero type for a battle advantage, as each hero comes with unique features (e.g., special skills, damage, etc.).
You can navigate the dungeon maze using directional inputs (N, E, W, S) to collect various items.
Use the Healing Potion to restore hit points.
Use the Vision Potion to display the dungeon map, revealing your current location and surroundings.
Only one of the other potions with effects for Agility, Medicine, and Poison is randomly present in the room.
Be prepared to face dangers such as pits (X), where you may fall and take damage, and monsters (M) that you must defeat.
You must defeat a monster before collecting each pillar (A, E, I, P).
Finally, face the boss monster to exit the dungeon.
Your objective is to collect all four pillars of Object-Oriented Programming (Abstraction, Encapsulation, Inheritance, and Polymorphism), find the exit, and defeat the boss monster guarding it to win the game.
Be cautious: if your hit points reach 0, it will result in Game Over!
Have fun, and good luck on your adventure!

Please enter your name as the Adventurer: |
```

# COURSE PROJECT: TEAM AWESOME - DUNGEON ADVENTURE 2.0

## 2. Player Name Entry and Hero Selection:

The player enters a name and chooses a hero type for a battle advantage. Each hero has unique features (e.g., special skills, damage, etc.).

```
Run game_controller x
/Users/jannine_g._d.macgormain/PycharmProjects/PythonProject/TeamAwesomeDungeonAdventure2.0/.venv/bin/python /Users/jannine_g._d.macgormain/PycharmProjects/PythonProject/TeamAwesomeDungeonAdventure2.0/main.py

Welcome to Dungeon Adventure 2.0!
In this adventure dungeon exploration game, you will explore its multiple rooms, each presenting unique challenges.
Each room may contain randomly generated item(s) and present threats, such as monsters and pits.
Choose your hero type for a battle advantage, as each hero comes with unique features (e.g., special skills, damage, etc.).
You can navigate the dungeon maze using directional inputs (N, E, W, S) to collect various items.
Use the Healing Potion to restore hit points.
Use the Vision Potion to display the dungeon map, revealing your current location and surroundings.
Only one of the other potions with effects for Agility, Medicine, and Poison is randomly present in the room.
Be prepared to face dangers such as pits (X), where you may fall and take damage, and monsters (M) that you must defeat.
You must defeat a monster before collecting each pillar (A, E, I, P).
Finally, face the boss monster to exit the dungeon.
Your objective is to collect all four pillars of Object-Oriented Programming (Abstraction, Encapsulation, Inheritance, and Polymorphism).
Be cautious: if your hit points reach 0, it will result in Game Over!
Have fun, and good luck on your adventure!

Please enter your name as the Adventurer: TEAM AWESOME
Please choose your hero class:
1. Warrior - Strong attack and crushing blow special skill.
2. Priestess - Can heal with special skill.
3. Thief - Chance for a surprise attack with an extra turn.
Please enter the number of your chosen hero class: 1

TEAM AWESOME has chosen the Warrior!

Your Dungeon Adventure starts here!

***
* i H p M |
***
```

# COURSE PROJECT: TEAM AWESOME - DUNGEON ADVENTURE 2.0

## 3. Player Exploration Mechanics

The player will explore a dungeon with multiple rooms.

Each room may contain randomly generated item(s) and present threats, such as monsters and pits.

Item Categorization –  
All Types of Items:  
Each item has an  
associated symbol and its  
description.

*Inventory Items:*  
Pillars (i.e., A, E, I, P):  
A – Abstraction  
E – Encapsulation  
I – Inheritance  
P – Polymorphism

```
Run game_controller x
Please enter your name as the Adventurer: TEAM AWESOME
Please choose your hero class:
1. Warrior - Strong attack and crushing blow special skill.
2. Priestess - Can heal with special skill.
3. Thief - Chance for a surprise attack with an extra turn.
Please enter the number of your chosen hero class: 1

TEAM AWESOME has chosen the Warrior!

Your Dungeon Adventure starts here!

***
* i H p M |
***

Room Features:
Monster: Skeleton
HP: 100

Inventory Item(Potion):
Healing Potion

Inventory Item(Other Potion):
Medicine
Environmental Element:
Entrance

A wild Skeleton has appeared!

--- Skeleton Information ---
Monster Name: Skeleton
HP: 100
Attack Damage: 30-50
--- End of Skeleton Information ---
```

Potions (i.e., H, V):  
H – Healing Potion  
V – Vision Potion

Other Potions:  
"p" for Agility, Medicine,  
and Poison.

*Environmental Elements:*  
i – Entrance  
O – Exit  
X – Pit  
M – Monster

# COURSE PROJECT: TEAM AWESOME - DUNGEON ADVENTURE 2.0

## 4. Player Movement

The player can move around the dungeon maze using directional inputs (N, E, W, S).

```
Run  game_controller x
-- Player Status ---
Player Name: TEAM AWESOME
Hero Name: Warrior
Hit Points: 119
Healing Potions: 1
Vision Potions: 0
Pillars Found: None
--- End of Player Status ---

--- Warrior Information ---
Hero Name: Warrior
HP: 119
Attack Damage: 35-60
--- End of Warrior Information ---

Please choose an action:
1. Move
2. Attack
3. Use Potion
4. Quit
1
Please choose a direction:
1. North (N)
2. South (S)
3. East (E)
4. West (W)
Please enter the number corresponding to your direction: 3
```

# COURSE PROJECT: TEAM AWESOME - DUNGEON ADVENTURE 2.0

## 5. Item Collection

The player collects healing potions.  
The player collects vision potions.

```
Run game_controller x
***
* i H p M |
***

Room Features:
Monster: Skeleton
HP: 100

Inventory Item(Potion):
Healing Potion

Inventory Item(Other Potion):
Medicine
Environmental Element:
Entrance

A wild Skeleton has appeared!

--- Skeleton Information ---
Monster Name: Skeleton
HP: 100
Attack Damage: 30-50
--- End of Skeleton Information ---

You found a Healing Potion!
You used Medicine and restored 19 HP from the Poison inflicted by Skeleton!
```

```
Run game_controller x

Please choose a direction:
1. North (N)
2. South (S)
3. East (E)
4. West (W)

Please enter the number corresponding to your direction: 2

*~*
| V X |
***

Room Features:

Inventory Item(Potion):
Vision Potion

Environmental Element:
Pit

You found a Vision Potion!

You fell into a pit and took 21 damage!
```

# COURSE PROJECT: TEAM AWESOME - DUNGEON ADVENTURE 2.0

## Continuation for 5. Item Collection:

The player collects pillars (i.e., A, E, I, P).

```
Run game_controller x
Please choose an action:
1. Move
2. Attack
3. Use Potion
4. Quit
2
Skeleton has fainted!

TEAM AWESOME the Warrior attacks Skeleton for 59 damage!

--- Current HP Status ---
TEAM AWESOME the Warrior HP: 45
VS.
Skeleton HP: -4
--- End of HP Status ---

Skeleton has been defeated!

You defeated the Skeleton and collected the Encapsulation pillar!
```

```
Run game_controller x
Skeleton has been defeated!

You defeated the Skeleton and collected the Encapsulation pillar!

***
| *
**

Room Features:
No features

-- Player Status --
Player Name: TEAM AWESOME
Hero Name: Warrior
Hit Points: 45
Healing Potions: 2
Vision Potions: 1
Pillars Found: Inheritance, Encapsulation
--- End of Player Status ---

--- Warrior Information ---
Hero Name: Warrior
HP: 45
Attack Damage: 35-60
--- End of Warrior Information ---

Please choose an action:
1. Move
2. Attack
3. Use Potion
4. Quit
```



# COURSE PROJECT: TEAM AWESOME - DUNGEON ADVENTURE 2.0

## 6. Item Usage:

V - Vision Potion to display the dungeon map and reveal the player's current location and surroundings.

```
Run game_controller x
Please choose an action:
1. Move
2. Attack
3. Use Potion
4. Quit
3
Choose a potion to use:
1. Healing Potion
2. Vision Potion
Please enter the number corresponding to your potion: 2

Vision potion used. Revealing the entire dungeon:

Room(0, 0)      Room(0, 1)      Room(0, 2)      Room(0, 3)      Room(0, 4)
***             ***             *-*             ***             *-*
* i M |         * |         | V p M |         | V X |         | V X *
***             ***             *-*             ***             ***

Room(1, 0)      Room(1, 1)      Room(1, 2)      Room(1, 3)      Room(1, 4)
*-*             ***             *-*             *-*             ***
| |             | H V X |         * H X |         * H V p M *      * O H V X |
***             *-*             ***             ***             *-*

YOU ARE HERE!
Room(2, 0)      Room(2, 1)      Room(2, 2)      Room(2, 3)      Room(2, 4)
***             ***             ***             ***             ***
| *             * H p M |         * H V X |         | H p M |         | i H V X *
*-*             ***             *-*             ***             ***
```

```
Run game_controller x
YOU ARE HERE!
Room(2, 0)      Room(2, 1)      Room(2, 2)      Room(2, 3)      Room(2, 4)
***             ***             ***             ***             ***
| *             * H p M |         * H V X |         | H p M |         | i H V X *
*-*             ***             *-*             ***             ***

Room(3, 0)      Room(3, 1)      Room(3, 2)      Room(3, 3)      Room(3, 4)
*-*             *-*             *-*             ***             ***
| H V p M *      * V p M *      | p M |         | V X |         | H V X |
*-*             ***             ***             *-*             ***

Room(4, 0)      Room(4, 1)      Room(4, 2)      Room(4, 3)      Room(4, 4)
*-*             *-*             *-*             ***             *-*
| H X *          | V X |         * I M *          | V X |         * O H V X *
*-*             *-*             ***             *-*             *-*

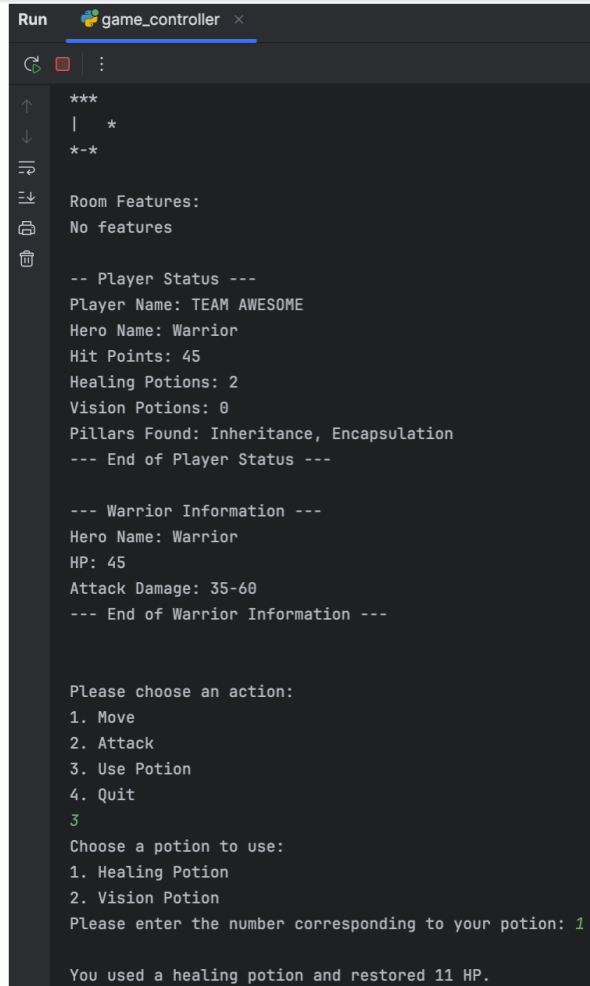
***
| *
*-*
|
Room Features:
No features

-- Player Status --
Player Name: TEAM AWESOME
Hero Name: Warrior
Hit Points: 45
Healing Potions: 2
Vision Potions: 0
Pillars Found: Inheritance, Encapsulation
--- End of Player Status ---
```

# COURSE PROJECT: TEAM AWESOME - DUNGEON ADVENTURE 2.0

## Continuation for 6. Item Usage:

H - Healing Potion to restore hit points.

A screenshot of a terminal window titled "game\_controller". The window shows a text-based interface for a game. At the top, there's a decorative separator with three asterisks and a vertical line. Below that, it says "Room Features: No features". Then, it displays "Player Status" with details: Player Name: TEAM AWESOME, Hero Name: Warrior, Hit Points: 45, Healing Potions: 2, Vision Potions: 0, and Pillars Found: Inheritance, Encapsulation. This is followed by "Warrior Information" showing Hero Name: Warrior, HP: 45, and Attack Damage: 35-60. A menu titled "Please choose an action:" lists four options: 1. Move, 2. Attack, 3. Use Potion, and 4. Quit. The number "3" is highlighted in green, indicating it's the selected option. Below the menu, it asks "Choose a potion to use:" with two options: 1. Healing Potion and 2. Vision Potion. It then prompts "Please enter the number corresponding to your potion:" and the number "1" is entered in green. Finally, it displays the message "You used a healing potion and restored 11 HP." on the last line.

```
Run game_controller x
***
|  *
*-*

Room Features:
No features

-- Player Status ---
Player Name: TEAM AWESOME
Hero Name: Warrior
Hit Points: 45
Healing Potions: 2
Vision Potions: 0
Pillars Found: Inheritance, Encapsulation
--- End of Player Status ---

--- Warrior Information ---
Hero Name: Warrior
HP: 45
Attack Damage: 35-60
--- End of Warrior Information ---

Please choose an action:
1. Move
2. Attack
3. Use Potion
4. Quit
3
Choose a potion to use:
1. Healing Potion
2. Vision Potion
Please enter the number corresponding to your potion: 1

You used a healing potion and restored 11 HP.
```

# COURSE PROJECT: TEAM AWESOME - DUNGEON ADVENTURE 2.0

## 7. Other Potions Effects

- p – Agility: The player picks up an Agility potion and dodges an attack from a monster.
- p – Medicine: The player uses Medicine and restores HP from poison inflicted by a monster.
- p – Poison: A monster inflicts poison on the player, causing damage.

```
Run game_controller x
A wild Skeleton has appeared!

--- Skeleton Information ---
Monster Name: Skeleton
HP: 100
Attack Damage: 30-50
--- End of Skeleton Information ---

You picked up an Agility potion and dodged an attack with a speed of 15 from Skeleton!

-- Player Status ---
Player Name: TEAM AWESOME
Hero Name: Warrior
Hit Points: 1000
Healing Potions: 0
Vision Potions: 0
Pillars Found: None
--- End of Player Status ---

--- Warrior Information ---
Hero Name: Warrior
HP: 1000
Attack Damage: 35-60
--- End of Warrior Information ---

Please choose an action:
1. Move
2. Attack
3. Use Potion
4. Quit
2
```

```
Run game_controller x
***
* i O p M *
***

Room Features:
Monster: Ogre
HP: 200

Inventory Item(Other Potion):
Poison
Environmental Element:
Entrance

Environmental Element:
Exit

A wild Ogre has appeared!

--- Ogre Information ---
Monster Name: Ogre
HP: 200
Attack Damage: 30-60
--- End of Ogre Information ---

You were poisoned by Ogre and took 26 damage!
```

```
Run game_controller x
***
* i H V p M *
***

Room Features:
Monster: Ogre
HP: 200

Inventory Item(Potion):
Healing Potion

Inventory Item(Potion):
Vision Potion

Inventory Item(Other Potion):
Medicine
Environmental Element:
Entrance

A wild Ogre has appeared!

--- Ogre Information ---
Monster Name: Ogre
HP: 200
Attack Damage: 30-60
--- End of Ogre Information ---

You found a Healing Potion!

You found a Vision Potion!
You used Medicine and restored 15 HP from the Poison inflicted by Ogre!
```

# COURSE PROJECT: TEAM AWESOME - DUNGEON ADVENTURE 2.0

## 8. Dangers

X – Pit: The player falls into a pit and takes damage.

M – Monster: The player fights a monster and a boss monster.

Each monster has unique features (i.e., damage, chance to heal, etc.).

```
Run  game_controller x
Please choose a direction:
1. North (N)
2. South (S)
3. East (E)
4. West (W)
Please enter the number corresponding to your direction: 2

*-*
| V X |
***

Room Features:

Inventory Item(Potion):
Vision Potion

Environmental Element:
Pit

You found a Vision Potion!

You fell into a pit and took 21 damage!
```

```
Run  game_controller x
***
| M *
***

Room Features:
Monster: Ogre
HP: 200

A wild Ogre has appeared!

--- Ogre Information ---
Monster Name: Ogre
HP: 200
Attack Damage: 30-60
--- End of Ogre Information ---

-- Player Status --
Player Name: TEAM AWESOME
Hero Name: Warrior
Hit Points: 89
Healing Potions: 2
Vision Potions: 2
Pillars Found: None
--- End of Player Status ---

--- Warrior Information ---
Hero Name: Warrior
HP: 89
Attack Damage: 35-60
--- End of Warrior Information ---
```

```
Run  game_controller x
--- Current HP Status ---
TEAM AWESOME the Warrior HP: 250
VS.
The Dark Lord HP: 41
--- End of HP Status ---

The Dark Lord attacks you for 80 damage!
The Dark Lord heals for 53 hit points!

Please choose an action:
1. Move
2. Attack
3. Use Potion
4. Quit
2
TEAM AWESOME the Warrior performs a Crushing Blow dealing 117 damage!
```

# COURSE PROJECT: TEAM AWESOME - DUNGEON ADVENTURE 2.0

## 9. Combat Mechanics with Monsters and Boss Monster:

The player must defeat a monster before collecting each pillar found (i.e., A, E, I, P).  
The player faces the boss monster and must defeat it to exit the dungeon.

```
Run game_controller x
*-~
| i I H M *
***

Room Features:
Monster: Ogre
HP: 200

Inventory Item(Pillar):
Inheritance

Inventory Item(Potion):
Healing Potion
Environmental Element:
Entrance

A wild Ogre has appeared!

--- Ogre Information ---
Monster Name: Ogre
HP: 200
Attack Damage: 30-60
--- End of Ogre Information ---

You see a pillar: Inheritance

Defeat the monster before collecting the pillar!

You found a Healing Potion!
```

```
Run game_controller x

Ogre attacks you for 34 damage!

Please choose an action:
1. Move
2. Attack
3. Use Potion
4. Quit
2

TEAM AWESOME the Warrior attacks Ogre for 47 damage!

--- Current HP Status ---
TEAM AWESOME the Warrior HP: 1466
VS.
Ogre HP: 107
--- End of HP Status ---

Ogre attacks you for 59 damage!

Please choose an action:
1. Move
2. Attack
3. Use Potion
4. Quit
2

Ogre attacks you for 50 damage!
```

```
Run game_controller x

Ogre attacks you for 55 damage!

Please choose an action:
1. Move
2. Attack
3. Use Potion
4. Quit
2

Ogre attacks you for 51 damage!

Please choose an action:
1. Move
2. Attack
3. Use Potion
4. Quit
2

Ogre has fainted!

TEAM AWESOME the Warrior attacks Ogre for 43 damage!

--- Current HP Status ---
TEAM AWESOME the Warrior HP: 1197
VS.
Ogre HP: -17
--- End of HP Status ---

Ogre has been defeated!

You defeated the Ogre and collected the Inheritance pillar!
```

```
Run game_controller x

--- Current HP Status ---
TEAM AWESOME the Warrior HP: 250
VS.
The Dark Lord HP: 41
--- End of HP Status ---

The Dark Lord attacks you for 80 damage!
The Dark Lord heals for 53 hit points!

Please choose an action:
1. Move
2. Attack
3. Use Potion
4. Quit
2

TEAM AWESOME the Warrior performs a Crushing Blow dealing 117 damage!
The Dark Lord has been defeated! You can now exit the dungeon.

TEAM AWESOME the Warrior attacks The Dark Lord for 117 damage!

--- Current HP Status ---
TEAM AWESOME the Warrior HP: 170
VS.
The Dark Lord HP: -23
--- End of HP Status ---

The Dark Lord has been defeated!

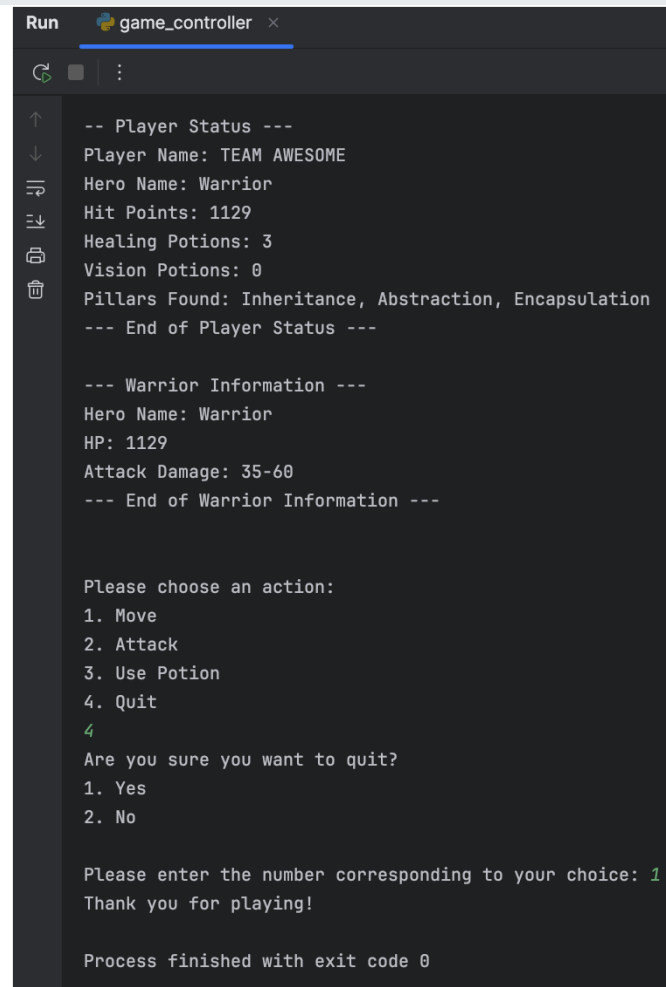
Congratulations! You've defeated the boss, collected the 4 pillars, and exited the dungeon! You win!

Process finished with exit code 0
```

# COURSE PROJECT: TEAM AWESOME - DUNGEON ADVENTURE 2.0

## 10. Quit Game:

The player can quit the game at any time.



```
Run game_controller x
-- Player Status ---
Player Name: TEAM AWESOME
Hero Name: Warrior
Hit Points: 1129
Healing Potions: 3
Vision Potions: 0
Pillars Found: Inheritance, Abstraction, Encapsulation
--- End of Player Status ---

--- Warrior Information ---
Hero Name: Warrior
HP: 1129
Attack Damage: 35-60
--- End of Warrior Information ---

Please choose an action:
1. Move
2. Attack
3. Use Potion
4. Quit
4
Are you sure you want to quit?
1. Yes
2. No

Please enter the number corresponding to your choice: 1
Thank you for playing!

Process finished with exit code 0
```

# COURSE PROJECT: TEAM AWESOME - DUNGEON ADVENTURE 2.0

## 11. Winning Condition:

The player must collect all four pillars of Object-Oriented Programming (Abstraction, Encapsulation, Inheritance, and Polymorphism), find the exit, and defeat the boss monster to win the game.

## 12. Losing Condition:

If the player's hit points reach 0, it will result in Game Over!

```
Run game_controller x
--- Current HP Status ---
TEAM AWESOME the Warrior HP: 250
VS.
The Dark Lord HP: 41
--- End of HP Status ---

The Dark Lord attacks you for 80 damage!
The Dark Lord heals for 53 hit points!

Please choose an action:
1. Move
2. Attack
3. Use Potion
4. Quit
2
TEAM AWESOME the Warrior performs a Crushing Blow dealing 117 damage!
The Dark Lord has been defeated! You can now exit the dungeon.

TEAM AWESOME the Warrior attacks The Dark Lord for 117 damage!

--- Current HP Status ---
TEAM AWESOME the Warrior HP: 170
VS.
The Dark Lord HP: -23
--- End of HP Status ---

The Dark Lord has been defeated!

Congratulations! You've defeated the boss, collected the 4 pillars, and exited the dungeon! You win!

Process finished with exit code 0
```

```
Run game_controller x
**
| H X *
**

Room Features:

Inventory Item(Potion):
Healing Potion

Environmental Element:
Pit

You found a Healing Potion!

You fell into a pit and took 36 damage!

-- Player Status --
Player Name: TEAM AWESOME
Hero Name: Warrior
Hit Points: -4
Healing Potions: 4
Vision Potions: 1
Pillars Found: Inheritance, Encapsulation
--- End of Player Status ---

--- Warrior Information ---
Hero Name: Warrior
HP: -4
Attack Damage: 35-60
--- End of Warrior Information ---
```

```
Run game_controller x
-- Player Status --
Player Name: TEAM AWESOME
Hero Name: Warrior
Hit Points: -4
Healing Potions: 4
Vision Potions: 1
Pillars Found: Inheritance, Encapsulation
--- End of Player Status ---

--- Warrior Information ---
Hero Name: Warrior
HP: -4
Attack Damage: 35-60
--- End of Warrior Information ---

Game Over! You have no more hit points.

Process finished with exit code 0
```

# COURSE PROJECT: TEAM AWESOME - DUNGEON ADVENTURE 2.0

## Preliminary Unit Tests

Preliminary unit tests were conducted to ensure that the functions performed as intended.

```
TeamAwesomeDungeonAdventure2.0 main
unit_tests_for_Room_ItemFactory_MonsterFactory.py unit_tests_dungeon.py unit_tests...

4 import unittest
5 from room import Room
6 from pillar import Pillar
7 from potion import Potion
8 from other_potion import OtherPotion
9 from environmental_element import EnvironmentalElement
10 from monster_factory import MonsterFactory, Ogre, Gremlin, Skeleton
11
12 class TestRoom(unittest.TestCase):
13     def setUp(self):
14         # Set up a new room instance for each test without random contents.
15         self.room = Room(initialize_contents=False)
16
17     def test_room_initialization(self):
18         # Test the initialization of the room.
19         self.assertFalse(self.room.has_healing_potion)
20         self.assertFalse(self.room.has_vision_potion)
21         self.assertIsNone(self.room.has_other_potion)
22         self.assertFalse(self.room.has_pit)
23         self.assertFalse(self.room.is_entrance)
24         self.assertFalse(self.room.is_exit)
25         self.assertIsNone(self.room.pillar)
26         self.assertIsNone(self.room.monster)
```

Run Python tests in unit\_tests\_for\_Room\_ItemFactory\_Mons... x

Test Results 0ms Tests passed: 12 of 12 tests - 0ms

/Users/jannine\_g\_d.macgormain/PycharmProjects/PythonProject/TeamAwesomeD...  
Testing started at 3:45 AM ...  
Launching unittests with arguments python -m unittest /Users/ja...  
  
Ran 12 tests in 0.001s  
  
OK

```
TeamAwesomeDungeonAdventure2.0 main
unit_tests_dungeon.py unit_tests_for_Room_ItemFactory_MonsterFactory.py unit_tests_for_DungeonCharacter_Heroes_and_Monsters.py

12 def setUp(self):
13     # Set up a new instance of the dungeon for testing.
14     self.dungeon = Dungeon(width=5, height=5)
```

Run Python tests in unit\_tests\_dungeon.py

Test Results 0ms Tests passed: 6 of 6 tests - 0ms

| YOU ARE HERE! |            |             |            |             |  |
|---------------|------------|-------------|------------|-------------|--|
| Room(0, 0)    | Room(0, 1) | Room(0, 2)  | Room(0, 3) | Room(0, 4)  |  |
| ***           | ***        | ***         | ***        | ***         |  |
| i H V X       | * O H V X  | * i H X *   | H V X *    | H X *       |  |
| ***           | ***        | *-*         | ***        | *-*         |  |
| Room(1, 0)    | Room(1, 1) | Room(1, 2)  | Room(1, 3) | Room(1, 4)  |  |
| ***           | ***        | ***         | ***        | ***         |  |
| * H V X       | * V X      | * i H p M   | p M        | X           |  |
| ***           | ***        | ***         | ***        | ***         |  |
| Room(2, 0)    | Room(2, 1) | Room(2, 2)  | Room(2, 3) | Room(2, 4)  |  |
| ***           | ***        | ***         | ***        | ***         |  |
| * A H V M     | * H p M    | * i H V M   | H V X      | * p M       |  |
| ***           | ***        | ***         | ***        | ***         |  |
| Room(3, 0)    | Room(3, 1) | Room(3, 2)  | Room(3, 3) | Room(3, 4)  |  |
| ***           | ***        | ***         | ***        | ***         |  |
| V X *         | V X        | H V p M     | H X *      | * p M *     |  |
| ***           | ***        | ***         | ***        | ***         |  |
| Room(4, 0)    | Room(4, 1) | Room(4, 2)  | Room(4, 3) | Room(4, 4)  |  |
| ***           | ***        | ***         | ***        | ***         |  |
| * H X         | * V p M    | O H V p M * | p M        | O P H V M * |  |
| ***           | ***        | ***         | ***        | ***         |  |

```
TeamAwesomeDungeonAdventure2.0 main
unit_tests_dungeon.py unit_tests_for_Room_ItemFactory_MonsterFactory.py unit_tests_for_DungeonCharacter_Heroes_and_Monsters.py unit_tests_for_MockBar...

6 from warrior import Warrior
7 from priestess import Priestess
8 from thief import Thief
9 from boss_monster import BossMonster
10 from ogre import Ogre
11 from gremlin import Gremlin
12 from skeleton import Skeleton
13
14 class TestWarrior(unittest.TestCase):
15     def setUp(self):
16         # Set up a new Warrior instance for each test.
17         self.warrior = Warrior('Test Warrior...TEAM AWESOME')
18
19     def test_initialization(self):
20         # Test the initialization of the Warrior class.
21         self.assertEqual(self.warrior.name, second='Test Warrior...TEAM AWESOME')
22         self.assertEqual(self.warrior.hit_points, second=100)
23         self.assertEqual(self.warrior.min_damage, second=35)
24         self.assertEqual(self.warrior.max_damage, second=60)
```

Run Python tests in unit\_tests\_for\_DungeonCharacter\_Hero... x

Test Results 0ms Tests passed: 14 of 14 tests - 0ms

Testing started at 3:53 AM ...  
Launching unittests with arguments python -m unittest /Users/jannine\_g\_d.macgormain/PycharmProjects/PythonProject/TeamAwesomeD...  
Test Boss Monster...Boss Monster unleashes a powerful attack on TEAM AWESOME the Warrior for 77 damage!  
Test Gremlin...A wild Gremlin slashes TEAM AWESOME the Priestess for 23 damage!  
Test Ogre...A wild Ogre smashes TEAM AWESOME the Warrior for 39 damage!  
Test Priestess...TEAM AWESOME the Priestess heals for 50 hit points!  
Test Skeleton...A wild Skeleton slices TEAM AWESOME the Thief for 50 damage!  
Test Thief...TEAM AWESOME the Thief attacks normally.  
Test Warrior...TEAM AWESOME the Warrior attacks Ogre for 51 damage!  
  
Ran 14 tests in 0.002s





James Godwin  
*the Brilliant thinker*

Maddy Whitney  
*the Awesome thinker*

Jannine G. D. MacGormain  
*the Fierce thinker*

# COURSE PROJECT: DUNGEON ADVENTURE 2.0

```
A path exists from the entrance to the exit.

YOU ARE HERE!
Room(0, 0)      Room(0, 1)      Room(0, 2)      Room(0, 3)      Room(0, 4)
*-*            *-*            *-*            *-*            *-*
| i E V M |    * E H M *    * P H M *    | I M |    | i P V M *
***            ***            ***            ***            *-*

Room(1, 0)      Room(1, 1)      Room(1, 2)      Room(1, 3)      Room(1, 4)
*-*            *-*            ***            ***            *-*
* A H M |    * P H M *    * P V M |    | i I M |    * I V M |
*-*            *-*            *-*            ***            *-*

Room(2, 0)      Room(2, 1)      Room(2, 2)      Room(2, 3)      Room(2, 4)
***            ***            *-*            *-*            *-*
* i E V M |    * E V M *    * E H M |    * I M *    * i I M *
*-*            *-*            ***            ***            ***

Room(3, 0)      Room(3, 1)      Room(3, 2)      Room(3, 3)      Room(3, 4)
***            ***            ***            ***            *-*
* E V M |    * E V M *    * I H V M |    * I V M *    * P M *
***            *-*            *-*            *-*            ***

Room(4, 0)      Room(4, 1)      Room(4, 2)      Room(4, 3)      Room(4, 4)
*-*            *-*            *-*            *-*            *-*
* I M |    * P H M |    * E M *    * P V M |    * O A M |
*-*            *-*            ***            ***            *-*
```