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## Game play features and Unit Tests

## 1. Python Source Code

**Description:** This section provides an overview of the Python source code for the Course Project, focusing on gameplay and mechanics. It highlights the key gameplay functionalities and the features that have been implemented. Additionally, it covers database management and the use of pickling for effective data handling.

### 1.1 Game Introduction and Welcome Message:

The player will be welcomed with a game introduction display, explaining the objectives and game mechanics.

The screenshot shows a terminal window titled "Run" with a tab labeled "main". The terminal displays the following text:  

```
✓ Single database connection established.
```

```
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: TEAM AWESOME
```

1.2 Player Name Entry and Hero Selection:

**Description:** 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.).

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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: *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*

1.3 Player Exploration Mechanics:

**Description:** 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.

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TERM environment variable not set.

Your Dungeon Adventure starts here!

-- Player Status --

Player Name: TEAM AWESOME the Warrior

Hit Points: 20000

Healing Potions: 0

Vision Potions: 1

Pillars Found: []

--- End of Player Status ---

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\*i \*

\*\*\*\*\*

Room is empty

Please choose an action:

1. Move

2. Battle

3. Use Potion

4. Quit

1

Please choose a direction:

(w) Up

(a) Left

(s) Down

(d) Right

Please enter the letter corresponding to your direction: TERM environment variable not set.

w

1.4 Player Movement:

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

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TERM environment variable not set.

Your Dungeon Adventure starts here!

-- Player Status --

Player Name: TEAM AWESOME the Warrior

Hit Points: 20000

Healing Potions: 0

Vision Potions: 1

Pillars Found: []

--- End of Player Status ---

\*-----\*

\*i \*

\*\*\*\*\*

Room is empty

Please choose an action:

1. Move

2. Battle

3. Use Potion

4. Quit

1

Please choose a direction:

(w) Up

(a) Left

(s) Down

(d) Right

Please enter the letter corresponding to your direction: TERM environment variable not set.

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1.5 Item Collection:

**Description:** The player collects healing and vision potions.

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```
-- Player Status ---
Player Name: TEAM AWESOME the Warrior
Hit Points: 20000
Healing Potions: 0
Vision Potions: 0
Pillars Found: []
--- End of Player Status ---

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    .qBp:      .u:  B:
      |  B:  .B  |
    .j  .qccccBp  |
      B.  pcccc.  B:
      .cccccccuBp.

--- Ogre Information ---
Hit Points: 200
Attack Damage: 30-60

You collected a Healing Potion!

You collected a Vision Potion!

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

Continuation for 1.5. Item Collection:

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

```
-----
TEST Status      Final Boss Status
Hit Points:      17961      44
Healing Potions: 0
Vision Potions:  1
-----

Final Boss turn 1 of 1:
Final Boss attacked you. You now have 17817 HP remaining.
-----

TEST Status      Final Boss Status
Hit Points:      17817      44
Healing Potions: 0
Vision Potions:  1
-----

Your turn 1 of 2:
Please choose an action:
1. Attack
2. Use Potion
3. Use Special Skill (Crushing Blow)
4. Quit Battle
1
TEST attacked Final Boss.
Final Boss now has 12 HP remaining.
-----

TEST Status      Final Boss Status
Hit Points:      17817      12
Healing Potions: 0
Vision Potions:  1
-----

Your turn 2 of 2:
Please choose an action:
1. Attack
2. Use Potion
3. Use Special Skill (Crushing Blow)
4. Quit Battle
1
TEST attacked Final Boss.
Final Boss now has -23 HP remaining.
-----

TEST Status      Final Boss Status
Hit Points:      17817      -23
Healing Potions: 0
Vision Potions:  1
-----

Final Boss has been defeated!

Congratulation! You've collected all four pillars, defeated the Final Boss and escaped the dungeon. You win!
maddywhitney@maddys-MacBook-Air-2 584DA_0386 %
```

1.6 Item Usage:

**Description:** Vision Potion to display the dungeon map and reveal the player's current location and surroundings.

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Choose a potion to use:

1. Healing Potion

2. Vision Potion

Please enter the number corresponding to your potion: 2

You are here:

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*****	*-----*	*****	*-----*	*-----*
*HVX	H	HX	EHVM	HVOX  *
*****	*-----*	*-----*	*-----*	*-----*
*****	*-----*	*-----*	*-----*	*-----*
*IVOM	HVM	H	V	HVOX  *
*-----*	*-----*	*****	*-----*	*-----*
*-----*	*-----*	*****	*-----*	*-----*
*VM	X	X	V     *	*HVM   *
*-----*	*-----*	*-----*	*-----*	*-----*
*-----*	*-----*	*-----*	*-----*	*-----*
*	HVM	HM	O     *	*eM    *
*-----*	*****	*****	*****	*****

Continuation for 1.6. Item Usage:

**Description:** Healing Potion to restore hit points.

Run main x

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Please choose an action:

1. Move

2. Battle

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 gained 30 HP.

-- Player Status ---

Player Name: TEAM AWESOME the Warrior

Hit Points: 19918

Healing Potions: 0

Vision Potions: 2

Pillars Found: []

--- End of Player Status ---

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Room is empty

Please choose an action:

1. Move

2. Battle

3. Use Potion

4. Quit



1.7 Other Potions Effects:

Description:

- 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  main x
Please choose a direction:
(w) Up
(a) Left
(s) Down
(d) Right
Please enter the letter corresponding to your direction: d

-- Player Status ---
Player Name: TEAM AWESOME the Warrior
Hit Points: 20000
Healing Potions: 0
Vision Potions: 2
Pillars Found: []
--- End of Player Status ---

*****
|HVX  |
*-----*

The air in this room is sulphurous ~ you took 50 damage!

You collected a Healing Potion!


You collected a Vision Potion!




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







1.8 Dangers:

Description:

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

Run  main x

```
-- Player Status ---
Player Name: TEAM AWESOME the Warrior
Hit Points: 19909
Healing Potions: 1
Vision Potions: 2
Pillars Found: []
--- End of Player Status ---

*-----*
|X      |
*-----*

The air in this room is sulphurous ~ you took 21 damage!

Please choose an action:
1. Move
2. Battle
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 gained 30 HP.

-- Player Status ---
Player Name: TEAM AWESOME the Warrior
Hit Points: 19918
Healing Potions: 0
Vision Potions: 2
Pillars Found: []
```

Continuation for 1.8. Dangers:

**Description:**

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

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

```
Run main x
```

---

```
Player Name: TEAM AWESOME the Warrior  
Hit Points: 20000  
Healing Potions: 0  
Vision Potions: 1  
Pillars Found: []  
--- End of Player Status ---  
  
*-----*  
*M      |  
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```

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```
--- Skeleton Information ---  
Hit Points: 100  
Attack Damage: 30-50  
  
Please choose an action:  
1. Move  
2. Battle  
3. Use Potion  
4. Quit  
2
```

### 1.9 Combat Mechanics with Monsters and Boss Monster:

**Description:**

The player engages in combat with the monsters and can use the chosen hero's special skills.

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--- Ogre Information ---
Hit Points: 200
Attack Damage: 30-60

You collected a Vision Potion!

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

-----

Your turn 1 of 2:

Please choose an action:
1. Attack
2. Use Potion
3. Use Special Skill (Crushing Blow)
4. Quit Battle
1
```

Continuation for 1.9. Combat Mechanics with Monsters and Boss Monster:

Description:

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.

```
/usr/local/bin/python3 /Users/maddywhitney/Documents/School/University_of_Washington/Software_Engineering/584/584DA_8386/main.py
maddywhitney@Maddys-MacBook-Air-2 584DA_8386 % /usr/local/bin/python3 /Users/maddywhitney/Documents/School/University_of_Washington/Software_Engineering/584/584DA_8386/main.py
Single database connection established.

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!

Your Dungeon Adventure starts here!

A Final Boss appears at the exit!

Your turn 1 of 2:
Please choose an action:
1. Attack
2. Use Potion
3. Use Special Skill (Crushing Blow)
4. Quit Battle

```

```
Your Dungeon Adventure starts here!

A Final Boss appears at the exit!

Your turn 1 of 2:
Please choose an action:
1. Attack
2. Use Potion
3. Use Special Skill (Crushing Blow)
4. Quit Battle
1

TEST failed to attack Final Boss.

Hit Points:      TEST Status      Final Boss Status
Healing Potions: 0                1000
Vision Potions:  1

Your turn 2 of 2:
Please choose an action:
1. Attack
2. Use Potion
3. Use Special Skill (Crushing Blow)
4. Quit Battle
1

TEST attacked Final Boss.
Final Boss now has 956 HP remaining.

Hit Points:      TEST Status      Final Boss Status
Healing Potions: 0                956
Vision Potions:  1

Final Boss turn 1 of 1:
No action taken.

Hit Points:      TEST Status      Final Boss Status
Healing Potions: 0                956
Vision Potions:  1

Your turn 1 of 2:
Please choose an action:
1. Attack
2. Use Potion
3. Use Special Skill (Crushing Blow)
4. Quit Battle

```

```
Hit Points:      TEST Status      Final Boss Status
Healing Potions: 0                44
Vision Potions:  1

Final Boss turn 1 of 1:
Final Boss attacked you. You now have 17817 HP remaining.

Hit Points:      TEST Status      Final Boss Status
Healing Potions: 0                44
Vision Potions:  1

Your turn 1 of 2:
Please choose an action:
1. Attack
2. Use Potion
3. Use Special Skill (Crushing Blow)
4. Quit Battle
1

TEST attacked Final Boss.
Final Boss now has 12 HP remaining.

Hit Points:      TEST Status      Final Boss Status
Healing Potions: 0                12
Vision Potions:  1

Your turn 2 of 2:
Please choose an action:
1. Attack
2. Use Potion
3. Use Special Skill (Crushing Blow)
4. Quit Battle
1

TEST attacked Final Boss.
Final Boss now has -23 HP remaining.

Hit Points:      TEST Status      Final Boss Status
Healing Potions: 0                -23
Vision Potions:  1

Final Boss has been defeated!

Congratulation! You've collected all four pillars, defeated the Final Boss and escaped the dungeon. You win!
maddywhitney@Maddys-MacBook-Air-2 584DA_8386 %
```

Description:

The player engages in combat with the monsters and can use the chosen hero’s special skills.

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TEAM AWESOME the Warrior Status

Ogre Status

Hit Points: 20000 153

Healing Potions: 0

Vision Potions: 2

-----

Ogre turn 1 of 2:

No action taken.

-----

Ogre turn 2 of 2:

No action taken.

-----

TEAM AWESOME the Warrior Status

Ogre Status

Hit Points: 20000 153

Healing Potions: 0

Vision Potions: 2

-----

Your turn 1 of 2:

Please choose an action:

1. Attack

2. Use Potion

3. Use Special Skill (Crushing Blow)

4. Quit Battle

3

Continuation for 1.9. Combat Mechanics with Monsters and Boss Monster:

Description:

The player engages in combat with the monsters and can use the chosen hero’s special skills.

Run main x

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Your turn 1 of 2:

Please choose an action:

1. Attack

2. Use Potion

3. Use Special Skill (Crushing Blow)

4. Quit Battle

3

TEAM AWESOME the Warrior failed to Crush the Ogre.

-----

	TEAM AWESOME the Warrior Status	Ogre Status
Hit Points:	20000	153
Healing Potions:	0	
Vision Potions:	2	

-----

Your turn 2 of 2:

Please choose an action:

1. Attack

2. Use Potion

3. Use Special Skill (Crushing Blow)

4. Quit Battle

1

TEAM AWESOME the Warrior attacked Ogre.

Ogre now has 114 HP remaining.

-----

Continuation for 1.9. Combat Mechanics with Monsters and Boss Monster:

Description:

The player engages in combat with the monsters and can use the chosen hero’s special skills.

Run main x

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Your turn 1 of 2:

Please choose an action:

1. Attack

2. Use Potion

3. Use Special Skill (Crushing Blow)

4. Quit Battle

3

TEAM AWESOME the Warrior failed to Crush the Ogre.

-----

TEAM AWESOME the Warrior Status

Ogre Status

Hit Points: 20000153

Healing Potions: 0

Vision Potions: 2

-----

Your turn 2 of 2:

Please choose an action:

1. Attack

2. Use Potion

3. Use Special Skill (Crushing Blow)

4. Quit Battle

1

TEAM AWESOME the Warrior attacked Ogre.

Ogre now has 114 HP remaining.

-----



Continuation for 1.9. Combat Mechanics with Monsters and Boss Monster:

Description:

The player engages in combat with the monsters and can use the chosen hero’s special skills.

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TEAM AWESOME the Warrior StatusOgre Status

Hit Points:20000114

Healing Potions:0

Vision Potions:2

-----

Ogre turn 1 of 2:

No action taken.

-----

Ogre turn 2 of 2:

No action taken.

-----

TEAM AWESOME the Warrior StatusOgre Status

Hit Points:20000114

Healing Potions:0

Vision Potions:2

-----

Your turn 1 of 2:

Please choose an action:

1. Attack

2. Use Potion

3. Use Special Skill (Crushing Blow)

4. Quit Battle

1

Continuation for 1.9. Combat Mechanics with Monsters and Boss Monster:

Description:

The player engages in combat with the monsters and can use the chosen hero’s special skills.

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TEAM AWESOME the Warrior failed to attack Ogre.

-----

	TEAM AWESOME the Warrior Status	Ogre Status
Hit Points:	20000	114
Healing Potions:	0	
Vision Potions:	2	

-----

Your turn 2 of 2:

Please choose an action:

1. Attack

2. Use Potion

3. Use Special Skill (Crushing Blow)

4. Quit Battle

1

TEAM AWESOME the Warrior attacked Ogre.

Ogre now has 56 HP remaining.

-----

	TEAM AWESOME the Warrior Status	Ogre Status
Hit Points:	20000	56
Healing Potions:	0	
Vision Potions:	2	

-----

Continuation for 1.9. Combat Mechanics with Monsters and Boss Monster:

Description:

The player engages in combat with the monsters and can use the chosen hero’s special skills.

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Ogre turn 2 of 2:

No action taken.

-----

	TEAM AWESOME the Warrior Status	Ogre Status
Hit Points:	20000	56
Healing Potions:	0	
Vision Potions:	2	

-----

Your turn 1 of 2:

Please choose an action:

1. Attack

2. Use Potion

3. Use Special Skill (Crushing Blow)

4. Quit Battle

1

TEAM AWESOME the Warrior attacked Ogre.

Ogre now has 2 HP remaining.

-----

	TEAM AWESOME the Warrior Status	Ogre Status
Hit Points:	20000	2
Healing Potions:	0	
Vision Potions:	2	

-----

Your turn 2 of 2:

Description:

The player engages in combat with the monsters and can use the chosen hero’s special skills.

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-----

Your turn 2 of 2:

Please choose an action:

1. Attack

2. Use Potion

3. Use Special Skill (Crushing Blow)

4. Quit Battle

1

TEAM AWESOME the Warrior attacked Ogre.

Ogre now has -34 HP remaining.

-----

	TEAM AWESOME the Warrior Status	Ogre Status
Hit Points:	20000	-34
Healing Potions:	0	
Vision Potions:	2	

Ogre has been defeated!

-- Player Status ---

Player Name: TEAM AWESOME the Warrior

Hit Points: 20000

Healing Potions: 0

Vision Potions: 2

Pillars Found: []

--- End of Player Status ---

1.10 Quit and Save Game:

Description:

The player can quit the game at any time. The player can choose to start a new game or continue the player’s saved game from where the player left off.

```
Run  main x
-- Player Status ---
Player Name: TEAM AWESOME the Warrior
Hit Points: 19950
Healing Potions: 1
Vision Potions: 3
Pillars Found: []
--- End of Player Status ---

*-----*
*i      |
*****

Room is empty

Please choose an action:
1. Move
2. Battle
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
✔ Database connection closed successfully.
Thank you for playing!

...saving game for later use...

Process finished with exit code 0
```

Continuation for Quit and Save Game:

Description:

The player can quit the game at any time. The player can choose to start a new game or continue the player’s saved game from where the player left off.

Run main x

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✔ Single database connection established.

Welcome to Dungeon Adventure 2.0!  
In this adventure dungeon exploration game, you will explore its multiple rooms.  
Each room may contain randomly generated item(s) and present threats, such as monsters.  
Choose your hero type for a battle advantage, as each hero comes with unique abilities.  
You can navigate the dungeon maze using directional inputs (N, E, W, S).  
Use the Healing Potion to restore hit points.  
Use the Vision Potion to display the dungeon map, revealing your current location.  
Only one of the other potions with effects for Agility, Medicine, and Poison.  
Be prepared to face dangers such as pits (X), where you may fall and take damage.  
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.  
Be cautious: if your hit points reach 0, it will result in Game Over!  
Have fun, and good luck on your adventure!

You have a previously saved game, would you like to continue from where you left off?

1. Yes

2. No

1

Your Dungeon Adventure starts here!

-- Player Status ---  
Player Name: TEAM AWESOME the Warrior  
Hit Points: 19950  
Healing Potions: 1  
Vision Potions: 3  
Pillars Found: []  
--- End of Player Status ---

1.1 Winning Condition:

Description:

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

```
/usr/local/bin/python3 /Users/maddywhitney/Documents/School/University_of_Washington/Software_Engineering/584/584DA_8386/main.py
maddywhitney@maddys-MacBook-Air-2 584DA_8386 % /usr/local/bin/python3 /Users/maddywhitney/Documents/School/University_of_Washington/Software_Engineering/584/584DA_8386/main.py
✔ Single database connection established.

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!

Your Dungeon Adventure starts here!

-----
A Final Boss appears at the exit!
-----

Your turn 1 of 2:
Please choose an action:
1. Attack
2. Use Potion
3. Use Special Skill (Crushing Blow)
4. Quit Battle
█
```

```
Your Dungeon Adventure starts here!

-----
A Final Boss appears at the exit!
-----

Your turn 1 of 2:
Please choose an action:
1. Attack
2. Use Potion
3. Use Special Skill (Crushing Blow)
4. Quit Battle
1

TEST failed to attack Final Boss.

-----
TEST Status      Final Boss Status
Hit Points:      20000      1000
Healing Potions: 0
Vision Potions:  1
-----

Your turn 2 of 2:
Please choose an action:
1. Attack
2. Use Potion
3. Use Special Skill (Crushing Blow)
4. Quit Battle
1

TEST attacked Final Boss.
Final Boss now has 956 HP remaining.

-----
TEST Status      Final Boss Status
Hit Points:      20000      956
Healing Potions: 0
Vision Potions:  1
-----

Final Boss turn 1 of 1:
No action taken.

-----
TEST Status      Final Boss Status
Hit Points:      20000      956
Healing Potions: 0
Vision Potions:  1
-----

Your turn 1 of 2:
Please choose an action:
1. Attack
2. Use Potion
3. Use Special Skill (Crushing Blow)
4. Quit Battle
█
```

```
-----
TEST Status      Final Boss Status
Hit Points:      17961      44
Healing Potions: 0
Vision Potions:  1
-----

Final Boss turn 1 of 1:
Final Boss attacked you. You now have 17817 HP remaining.

-----
TEST Status      Final Boss Status
Hit Points:      17817      44
Healing Potions: 0
Vision Potions:  1
-----

Your turn 1 of 2:
Please choose an action:
1. Attack
2. Use Potion
3. Use Special Skill (Crushing Blow)
4. Quit Battle
1

TEST attacked Final Boss.
Final Boss now has 12 HP remaining.

-----
TEST Status      Final Boss Status
Hit Points:      17817      12
Healing Potions: 0
Vision Potions:  1
-----

Your turn 2 of 2:
Please choose an action:
1. Attack
2. Use Potion
3. Use Special Skill (Crushing Blow)
4. Quit Battle
1

TEST attacked Final Boss.
Final Boss now has -23 HP remaining.

-----
TEST Status      Final Boss Status
Hit Points:      17817      -23
Healing Potions: 0
Vision Potions:  1
-----

Final Boss has been defeated!

-----
Congratulations! You've collected all four pillars, defeated the Final Boss and escaped the dungeon. You win!
maddywhitney@maddys-MacBook-Air-2 584DA_8386 % █
```

1.2 Losing Condition:

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

```
TEST failed to attack Final Boss.
-----

TEST Status      Final Boss Status
Hit Points:      1          961
Healing Potions: 0
Vision Potions:  1
-----

Final Boss turn 1 of 1:

    No action taken.
-----

TEST Status      Final Boss Status
Hit Points:      1          961
Healing Potions: 0
Vision Potions:  1
-----

Your turn 1 of 2:

Please choose an action:
1. Attack
2. Use Potion
3. Use Special Skill (Crushing Blow)
4. Quit Battle
1

    TEST attacked Final Boss.
    Final Boss now has 902 HP remaining.
-----

TEST Status      Final Boss Status
Hit Points:      1          902
Healing Potions: 0
Vision Potions:  1
-----

Your turn 2 of 2:

Please choose an action:
1. Attack
2. Use Potion
3. Use Special Skill (Crushing Blow)
4. Quit Battle
1

    TEST failed to attack Final Boss.
-----

TEST Status      Final Boss Status
Hit Points:      1          902
Healing Potions: 0
Vision Potions:  1
-----

Final Boss turn 1 of 1:

    Final Boss attacked you. You now have -140 HP remaining.
    You were slain in battle, the game is over.
maddywhitney@Maddys-MacBook-Air-2 504DA 0306 %
```



## 2. Unit Tests

### Description:

Preliminary unit tests and Final Unit Tests were conducted to ensure that the functions performed as intended.

TA 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...

Test Results 0 ms

Tests passed: 12 of 12 tests – 0 ms

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

TA TeamAwesomeDungeonAdventure2.0main

unit\_tests\_dungeon.pyunit\_tests\_for\_Room\_ItemFactory\_MonsterFactory.pyunit\_tests\_for\_DungeonCharacter\_Heroes\_and\_Monsters.py

11def setUp(self):

12# Set up a new instance of the dungeon for testing.

13self.dungeon = Dungeon(width=5, height=5)

RunPython tests in unit\_tests\_dungeon.py

Test Results0 ms

Tests passed: 6 of 6 tests – 0 ms

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 \*

\*-\*\*\*\*\*\*\*

TA TeamAwesomeDungeonAdventure2.0main

unit\_tests\_dungeon.pyunit\_tests\_for\_Room\_ItemFactory\_MonsterFactory.pyunit\_tests\_for\_DungeonCharacter\_Heroes\_and\_Monsters.pyunit\_tests\_for\_MockBat

6from warrior import Warrior

7from priestess import Priestess

8from thief import Thief

9from boss\_monster import BossMonster

10from ogre import Ogre

11from gremlin import Gremlin

12from skeleton import Skeleton

13

14class TestWarrior(unittest.TestCase):

15def setUp(self):

16# Set up a new Warrior instance for each test.

17self.warrior = Warrior('Test Warrior...TEAM AWESOME')

18

19def test\_initialization(self):

20# Test the initialization of the Warrior class.

21self.assertEqual(self.warrior.name, 'Test Warrior...TEAM AWESOME')

22self.assertEqual(self.warrior.hit\_points, 100)

23self.assertEqual(self.warrior.min\_damage, 35)

24self.assertEqual(self.warrior.max\_damage, 60)

RunPython tests in unit\_tests\_for\_DungeonCharacter\_Hero...

Test Results0 ms

Tests passed: 14 of 14 tests – 0 ms

Testing started at 3:53 AM ...

Launching unittests with arguments python -m unittest /Users/jannine\_g.\_d.macgormain/PycharmProjects/PythonProject/TeamAwesomeDu

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