

Joshua Long  
11631741  
cpt\_S 487 HW4

**3. [10pts] Compare Composite and Decorator patterns. In your opinion, which one works better for this particular example? Explain your choice.**

In my opinion, the Decorator pattern works better for creating different combinations of behaviors by adding functionality to a base class, as it offers a more flexible and extensible way to achieve the desired functionality without creating a hierarchy of objects for each combination, which could lead to code duplication.

[Screenshot] These are screenShots that proves my code run properly

```
Hello, World!  
Hello, World!  
Please select an option:  
1. Change damage  
2. add zombie  
Updated enemy list:  
  
3. add all zombies one each  
4. Start Round / Demo game play  
waiting for Input.....
```

```
4. Start Round / Demo game play  
waiting for Input.....  
3  
You have chosen to 3.  
Updated enemy list:  
[R/50][C/25][B/100][S/25]  
Please select an option:  
1. Change damage  
2. add zombie  
Updated enemy list:  
[R/50][C/25][B/100][S/25]  
3. add all zombies one each  
4. Start Round / Demo game play  
waiting for Input.....
```

Please select an option:

1. DoDamage 25 : "Peashooter
2. DoDamageFromAbove 40 : Watermelon
3. ApplyMagnetForce : Magnet-shroom
4. End Game

waiting for Input.....

1

You have chosen to 1.

Regular zombie takes 25 damage.

Updated enemy list:

[R/25][C/25][B/100][S/25]

Please select an option:

1. DoDamage 25 : "Peashooter
2. DoDamageFromAbove 40 : Watermelon
3. ApplyMagnetForce : Magnet-shroom
4. End Game

waiting for Input.....

1

You have chosen to 1.

Regular zombie takes 25 damage.

Updated enemy list:

[C/25][B/100][S/25]

Please select an option:

1. DoDamage 25 : "Peashooter
2. DoDamageFromAbove 40 : Watermelon
3. ApplyMagnetForce : Magnet-shroom
4. End Game

waiting for Input.....

1

You have chosen to 1.

Cone zombie takes 25 damage.

Updated enemy list:

[R/50][B/100][S/25]

Please select an option:

1. DoDamage 25 : "Peashooter
2. DoDamageFromAbove 40 : Watermelon
3. ApplyMagnetForce : Magnet-shroom



3. ApplyMagnetForce : Magnet-shroom

4. End Game

waiting for Input.....

1

You have chosen to 1.

Cone zombie takes 25 damage.

Updated enemy list:

[R/25][B/100][S/25]

Please select an option:

1. DoDamage 25 : "Peashooter

2. DoDamageFromAbove 40 : Watermelon

3. ApplyMagnetForce : Magnet-shroom

4. End Game

waiting for Input.....

1

You have chosen to 1.

Cone zombie takes 25 damage.

Updated enemy list:

[B/100][S/25]

Please select an option:

1. DoDamage 25 : "Peashooter

2. DoDamageFromAbove 40 : Watermelon

3. ApplyMagnetForce : Magnet-shroom

4. End Game

waiting for Input.....

3

You have chosen to 3.

Bucket zombie is attracted by magnet.

Updated enemy list:

[R/50][S/25]

Please select an option:

1. DoDamage 25 : "Peashooter

2. DoDamageFromAbove 40 : Watermelon

3. ApplyMagnetForce : Magnet-shroom

4. End Game

waiting for Input.....