**Endless Fight**

**Endless Fight** is a new game currently being developed by the indie game developer **Juan Mach Lou**. As a programmer in the company, you have been tasked with creating the game prototype. To give you an idea of how the interactions in the game work, the designer has provided the schema for the classes and interfaces used in the prototype. **Below are the schemas**:

* **Enemy**

This is just a standalone class not connected to any parent or children. It is used to create an enemy that will endlessly spawn during the battle

|  |  |  |
| --- | --- | --- |
| **Type** | **Name** | **Value** |
| **String** | Name | Random between 10 possible names |
| **Int** | Hp | Random between 100 – 200 |
| **Int** | Damage | Random between 10 – 30 |
| **Int** | Reward | Random between 20 – 50 |
| **ArrayList<DamageOverTime>** | DOT | Everytime the enemy have a damage overtime effect it will be added to this list |

* **Spell**

This is the abstract class that is used as a template for the spells below

|  |  |  |
| --- | --- | --- |
| **Type** | **Name** | **Value** |
| **String** | Name | Same as the class (class fireball will have the name fireball) |
| **Int** | Damage | Fixed number (follows the explanation of each spell) |

* **Fire Ball**

A child class from **spell** that has the characteristics of **damage over time.** **It deals 25 dmg on hit and starts a Burn effect for 2 turns each damaging 10 dmg**.

|  |  |  |
| --- | --- | --- |
| **Type** | **Name** | **Value** |
| **String** | Name | Fireball |
| **Int** | Damage | 25 |
| **Int** | Duration | 2 |
| **Int** | Tick Damage | 10 |

* **Health Drain**

A child class from **spell** where **it damages and heals the player 3 times its damage**.

|  |  |  |
| --- | --- | --- |
| **Type** | **Name** | **Value** |
| **String** | Name | HealthDrain |
| **Int** | Damage | 15 |

* **Poison Mist**

A child class from **spell** that has the characteristics of **damage over time.** **It deals 5 dmg on hit and starts a Poison effect for 4 turns each damaging 25 dmg**.

|  |  |  |
| --- | --- | --- |
| **Type** | **Name** | **Value** |
| **String** | Name | PoisonMist |
| **Int** | Damage | 5 |
| **Int** | Duration | 4 |
| **Int** | Tick Damage | 25 |

* **Thunder Bolt**

A child class from **spell** where it can do critical hit or a miss. **Every time it is used it can do between 0.5 to 2.0 times its base damage**.

|  |  |  |
| --- | --- | --- |
| **Type** | **Name** | **Value** |
| **String** | Name | ThunderBolt |
| **Int** | Damage | 35 |

* **Damage Over Time**

**An interface** used to enable the use of **damage over tim**e for both the spell **poison mist and fire ball**. It is filled with the abstract method of **applyDamageOvertime(Enemy e) and getDuration().**

Make the program as such:

* The application consists of **2 menus**:

1. **Start**
2. **Exit**

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**Figure 1. Main Menu**

* If user choses menu **1** (“**Start**”), then the program will start the **endless fight**:
* During **the start of the fight** and **every time the enemy has been slain**. A new enemy will be **summoned** to the battle.

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**Figure 2. Battle Menu**

* When the **enemy’s hp goes to 0 make sure to make a new enemy** and add the **enemy’s reward to the score**.

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**Figure 3. Enemy Slain Message**

* If user choses **to “Cast Spell”**, the game will randomize between all the possible spell that can be **cast (Fireball, Health Drain, Thunder Bolt, Poison Mist).**
  + - **Make sure the effect of the spell follows what was written in the schema**
    - **The damage overtime effect can be stacked**
    - **The damage overtime will do its tick damage right after the enemy attacked**

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**Figure 4. Health Drain**

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**Figure 5. Thunder Bolt**

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**Figure 6. Poison Mist**

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**Figure 7. Fire Ball**

* If user choses **to “Give Up” or your hp goes to 0,** then the battle will end and show a **“You Died”** Message

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**Figure 7. End Game**

* If user choses **menu 2** (“**Exit**”), then the program will be closed.