

LE BAO DUY NGUYEN -102449993

Summary of the game

For this lab, I created a basic “game” FSM that has one character that fight against monsters. The character has health and mana with different action states. The goal of the game is to defeat all 10 monster (boss included) and avoid death when health reaches 0. Each action in the game can affect the character’s health and mana and the number of monsters left affect the action of the character.

```
#variables

mana = 12

health = 12

monster = 10


states = ['attack', 'ultimate', 'neutral']

current_state = 'neutral'


alive = True

user_move = True

max_limit = 100

game_time = 0


while alive and user_move:

    game_time += 1


# Attack : attack when encounter monster, gold increases, mana reduces,
health reduces

if current_state == 'attack':

    print('Fight !!!')

mana -= 1
```

```
health -= 1
```

```
monster -= 1
```

```
if monster == 1:
```

```
    current_state = "ultimate"
```

```
    # Ultimate : when there is 1 monster left (BOSS), mana decreases more,  
health decreases more
```

```
elif current_state == 'ultimate':
```

```
    print('Last one left!!!')

mana -= 2

health -= 2

monster -= 1

if monster == 0:

    current_state = 'neutral'

    # Neutral : does nothing, mana regens, health regens

elif current_state == 'neutral':

    print('Rest yourself')

mana += 1

health += 1

monster += 1

if monster > 1:

    current_state = 'attack'

# Death

if health < 1:

    alive = False

# Game ends
```

```
if game_time > max_limit:
```

```
    running = False
```

```
print ('GAME OVER')
```

```
Kevins-MacBook-Air-2:02 - Lab - FSM and Python kevinnguyen2208$ python3 T2.py
Rest yourself
Fight !!!
Fight !!!
Fight !!!
Fight !!!
Fight !!!
Fight !!!
Fight !!!
Fight !!!
Fight !!!
Fight !!!
Last one left !!!
Rest yourself
Rest yourself
Fight !!!
Last one left !!!
GAME OVER
Kevins-MacBook-Air-2:02 - Lab - FSM and Python kevinnguyen2208$ █
```