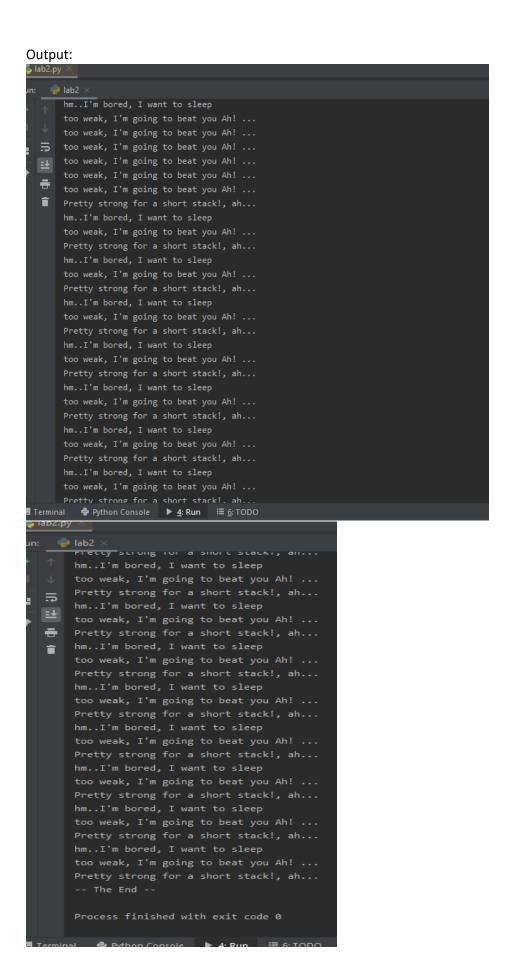


Explanation:

- I have four variables and three states as stated above in the pic.
- The diagram illustrates the transition to each state and forms a cycle
- The initial state is set to idle when the NPC goes on patrol then transitions to attacking or defending state based on the variable values for instance; the NPC checks for nearby enemies and if enemy_spotted value increments to more than 3 it transitions into defending state. On the other hand, if while defending the enemy_spotted drops below 3 it reverts back into ideal state and regains stamina.
- While in attacking state if enemy_strong increments greater than 5 the state is transitioned into defending and the reverts back into attacking if the enemy_weak decrements below 5.



CODE:

```
# variables
tired = 0
enemy_spotted = 0
enemy_strong = 0
enemy weak = 0
states = ['idle','attacking','defending',]
current_state = 'idle'
alive = True
running = True
max_limit = 100
game_time = 0
while running and alive:
    game_time += 1
    if current_state is 'idle':
        print("hm..I'm bored, I want to sleep")
        tired -= 1
        enemy_spotted += 1
        # Check for change state
        if tired < 5:</pre>
            current_state = 'attacking'
        if enemy_spotted > 3:
            current_state = 'defending'
    elif current_state is 'attacking':
        print("too weak, I'm going to beat you Ah! ...")
        tired += 1
        enemy_strong += 1
        if tired > 5:
            current_state = 'idle'
        if enemy_strong > 5:
            current_state = 'defending'
more
    elif current_state is 'defending':
        print("Pretty strong for a short stack!, ah...")
        enemy_spotted -= 1
        enemy_weak -= 1
        if enemy_weak < 5:</pre>
            current_state = 'attacking'
        if enemy_spotted < 3:</pre>
           current state = 'idle
```