

Comparing observed behavior of the zombies in the game window,  
with console output (debug code I added) while running the game.

Nil  
zombies  
moving

```
Zombie #0
- speed: 28
- alive: 0
Zombie #1
- speed: 15
- alive: 0
Zombie #2
- speed: 68
- alive: 0
Zombie #3
- speed: 28
- alive: 0
Zombie #4
- speed: 62
- alive: 0
Zombie #5
- speed: 0
- alive: 82
```

two  
zombies  
moving

```
Zombie #0
- speed: 28
- alive: 0
Zombie #1
- speed: 18
- alive: 224
Zombie #2
- speed: 68
- alive: 0
Zombie #3
- speed: 34
- alive: 0
Zombie #4
- speed: 62
- alive: 85
Zombie #5
- speed: 0
- alive: 0
```

three  
zombies  
moving

```
Zombie #0
- speed: 28
- alive: 64
Zombie #1
- speed: 29
- alive: 0
Zombie #2
- speed: 30
- alive: 0
Zombie #3
- speed: 35
- alive: 192
Zombie #4
- speed: 18
- alive: 163
Zombie #5
- speed: 0
- alive: 0
```

four  
zombies  
moving

```
Zombie #0
- speed: 28
- alive: 0
Zombie #1
- speed: 34
- alive: 43
Zombie #2
- speed: 73
- alive: 138
Zombie #3
- speed: 18
- alive: 213
Zombie #4
- speed: 19
- alive: 220
Zombie #5
- speed: 0
- alive: 0
```

The pattern seems to be: if one  
or both of speed and alive = 0,  
the zombie doesn't move.  
(movers highlighted in yellow)

```
Zombie #0
- speed: 28
- alive: 0
Zombie #1
- speed: 18
- alive: 224
Zombie #2
- speed: 68
- alive: 0
Zombie #3
- speed: 34
- alive: 0
Zombie #4
- speed: 62
- alive: 85
Zombie #5
- speed: 0
- alive: 0
```

This helped me identify that the bool `m_Alive` variable (declared in `zombie.h`) wasn't initialized  
(hence the junk values). This was easily fixed by initializing it in `zombie.cpp`. This solved the issue.

Here's the debug code I added to ZombieArena.cpp  
I added the for() loop at the end of the "if (state == State::PLAYING)" loop

```
#include <iostream>          //for access to cout and endl

for(int i=0; i< numZombies; i++)
{
    std::cout << "Zombie #" << i << std::endl;
    std::cout << "- speed: " << zombies[i].getSpeed() << std::endl;
    std::cout << "- alive: " << zombies[i].isAlive() << std::endl;
}
```