

STAGE 3 – SPAWNING THE NPCs

The following objects are in the game:

- The player – Attributes: Current location, flamethrower fuel and station power.
- Queen alien – Attributes: Current location.
- Ventilation shafts – Attributes: Location.
- Information panels – Attributes: Location.
- Worker aliens – Attributes: Location.

Objects in the game are represented in lists. Each type of object has its own list of modules that it exists in – for example, `workers = [4, 7, 8]` would mean there was a worker alien in modules 4, 7 and 8.

Two objects cannot occupy the same module at the start of the game.



Add the following procedure to your code:

```
def spawn_npcs():
    global num_modules, queen, vent_shafts, info_panels, workers
    module_set = []
    for counter in range(2,num_modules + 1):
        module_set.append(counter)
    random.shuffle(module_set)
    i = 0
    queen = module_set[i]
    for counter in range(0,3):
        i=i+1
        vent_shafts.append(module_set[i])

    for counter in range(0,2):
        i=i+1
        info_panels.append(module_set[i])

    for counter in range(0,3):
        i=i+1
        workers.append(module_set[i])
```

0 1 2
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Under the comment `#Main program starts here`, add the following lines:

```
spawn_npcs()
print("Queen alien is located in module:",queen)
print("Ventilation shafts are located in modules:",vent_shafts)
print("Information panels are located in modules:",info_panels)
print("Worker aliens are located in modules:",workers)
```



Programming project: Telium

Investigate

ITEM 	Identify a list in the subroutine <code>spawn_npcs()</code> .
STRUCTURE 	What character is used to identify or qualify the start and end of a string?
PURPOSE 	What does the line <code>random.shuffle(module_set)</code> do?
REASON 	Why is it necessary to output where non-player characters (NPCs) are placed considering you want to keep that information secret from the player?
RELATION 	What is the difference between the two following lines of code and how do they relate to each other? <pre>def spawn_npcs(): spawn_npcs()</pre>
APPROACH 	How does the code ensure that two NPCs cannot occupy the same module?



Programming project: Telium

Make

1 point

Comment the code so that each part is explained.

2 points

When you enter a module containing an NPC, the game should output, "There is a ... in here."

Evaluate

1. The game contains a queen alien, worker aliens, ventilation shafts and information panels. Can you think of additional game elements that could be spawned? Some ideas might include:
 - Additional fuel cells for the flamethrower. With such limited ways to gain fuel, the game is currently quite difficult. Extra fuel canisters around the space station would help.
 - Power distributor, to be coded later – can be used to increase the station's power supply.

