STAGE 4 – VENTILATION SHAFTS

Ventilation shafts teleport the player or queen alien to another random module. Their purpose is to add a small puzzle element to the game. Some modules will be inaccessible via certain routes due to the placement of the ventilation shafts. If a player goes into a room with a ventilation shaft, they have no option but to be transported to a random module. As a bonus, they will receive fuel for the flamethrower.

Try

Add the following procedure to your code:

```python
def check_vent_shafts():
    global num_modules, module, vent_shafts, fuel
    if module in vent_shafts:
        print("There is a bank of fuel cells here.")
        print("You load one into your flamethrower.")
        fuel_gained = 50
        print("Fuel was",fuel,"now reading:",fuel+fuel_gained)
        fuel = fuel + fuel_gained
        print("The doors suddenly lock shut.")
        print("What is happening to the station?")
        print("Our only escape is to climb into the ventilation shaft.")
        print("We have no idea where we are going.")
        print("We follow the passages and find ourselves sliding down.")
        last_module = module
        module = random.randint(1,num_modules)
        load_module()
```

```
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```

Underneath `load_module()`, add the following line:

`check_vent_shafts()`

Investigate T I M E

ITEM	Identify the data type of the value assigned to the `fuel_gained` variable.
STRUCTURE	What is the comma in this line known as in programming and what does it do? `print("Fuel was",fuel,"now it is",fuel+fuel_gained+".")`
PURPOSE	What does the line `if module in vent_shafts:` mean? What is the program actually checking?
REASON	Why do we need the following line of code: `fuel = fuel + fuel_gained` What does it do?
RELATION	What happens in the last line of the `check_vent_shafts()` subroutine? Why is this line of code required?
APPROACH	To provide some variety, how could the subroutine `check_vent_shafts()` be modified so it chooses from a handful of different prompts to display to the user when a ventilation shaft is discovered?

Make

1 point Comment the code so that each part is explained.
2 points In the current code, the player gains 50 units of fuel. Change the code so that the player gains 20, 30, 40 or 50 units of fuel at random.
3 points It is possible for the player to arrive back in the same module they have just escaped from or land in another module containing a ventilation shaft – prevent this from happening.

Evaluate

1. The ventilation shafts add a random element to how the player and queen alien navigate around the space station. In what other ways could you modify this game to:
   - Make navigation easier for the player?
   - Make navigation harder for the player?