Dungeon Version 1: Minimal version

Let's create a dungeon!

The following features will be created:

- Load map
- Find start
- Game loop
- Get command
- Escape (quit game)

The start position for the player is a cell that contains "S". For example, the Cave map has 4 rows and 5 columns:

```
**S--
*----
***--
--**F
```

S would be the starting position for the player, and **F** would be the target destination. The available path is presented with *** (star)** characters. **- (dash)** is a wall, the player can not go in that direction.

What to do

First, define the `MAP_FILE` constant (as in the template below).

Continue by implementing the `load_map`, `find_start`, and `get_command` functions.

1. Implement the `load_map` function that would load a map from a given text file and return it as a grid (nested list).

2. Implement the `find_start` function that takes the map (as a nested list) and finds the starting position of the player on the map. In the example above, the function would return `[0, 2]`.

3. Implement the `get_command` function that prompts the user for a command and returns the entered command.

4. Implement the `main` function with the following functionality:

   a) Call the `load_map` function

b) Print the nested list (use the `print` function to print it as is for debugging purpose) returned by the `load_map` function.

c) Call the `find_start` function to find the starting position

d) Print the starting position

e) Ask the user for a command. If the user enters the word **escape**, quit the program. Otherwise, display **I do not understand.** and ask again.

Use the following template. All functions defined in the template **must be present and implemented** in your code (you may **not** omit or change these functions definitions in any way). You **may** add extra functions if needed.

```
MAP_FILE = 'cave_map.txt'

def load_map(map_file: str) -> list[list[str]]:
    """
    Loads a map from a file as a grid (list of lists)
    """
    # TODO: implement this function

def find_start(grid: list[list[str]]) -> list[int, int]:
    """
    Finds the starting position of the player on the map.
    """
    # TODO: implement this function

def get_command() -> str:
    """
    Gets a command from the user.
    """
    # TODO: implement this function


def main():
    """
    Main entry point for the game.
    """
    # TODO: implement the main() function

if __name__ == '__main__':
    main()
```

Hints

- You will likely need to use nested loops in many of your functions!

Program name

Save your program as `dungeon1.py`.

Demo

In this demo, `cave_map.txt` is used.

https://asciinema.org/a/WPjQs1wE6znrcmX517kVkzJfn

Testing

To make sure your program works correctly, you should test it.

Good news: we wrote the unit tests for you: **test_dungeon1.py**

To test your functions, simply run the unit tests:

```
$ python -m pytest test_dungeon1.py
```

All tests should pass.

Submitting

Submit `dungeon1.py` via eClass.