map2.py

```python
# A simple program to draw a map of rooms and connections using Tkinter
# This program uses a JSON file to load room data and visualize the connections between them.
# The JSON file should contain room names and their connections in a specific format.
# The program uses Tkinter to create a graphical window and draw rectangles for rooms and lines for connections.
# The program also includes a recursive function to place rooms and draw connections based on the loaded data.

import tkinter as tk
import json

# Load room data uncomment as required
#datafile = "star_wars.json"
#datafile = "game_data.json"
#datafile = "game_data.json3"


with open(datafile) as f:
    data = json.load(f)

rooms = data["rooms"]

directions = ["North","South","East","West","Up","Down","Out"]

# Define direction-based position offsets
direction_offsets = {
    "North": (0, -1),   #up
    "South": (0, 1),    #down
    "East": (1, 0),     #right
    "West": (-1, 0),    #left
    "Up": (1, -1),      #up-right
    "Down": (-1, 1),    #down-left
    "Out": (-1, -1)
}

#width and height of window
w = 1200
h = 800

# Tkinter window setup
root = tk.Tk()
root.title("Room Map Viewer")

# we need a canvas widget to draw on
canvas = tk.Canvas(root, width=w, height=h, bg="white")
canvas.pack()


x0, y0 = 500, 600  # Center starting coordinates

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49 room_coords = {}  # Store coordinates of each room to draw connections
50 sizex = 40 # size of box to draw
51 sizey = 40 # size of box to draw
52
53 # Create a Visited set . A set is unchangeable!
54 visited = set()
55
56
57 #draw the room as a rectangle shape
58 def draw_room(name, x, y, colour):
59     room_coords[name] = (x, y)
60     canvas.create_rectangle(x - sizex, y - sizey, x + sizex, y + sizey,
   fill=colour)
61     canvas.create_text(x, y-30, text=name, font=("Arial", 8), justify="center")
62
63     ## print items in the room
64     items = rooms[name].get("Item", [])
65     if items:
66         item_text = items
67         canvas.create_text(x, y + 10, text=item_text, font=("Arial", 6),
   fill="blue")
68
69     #print enemies in the room
70     enemies = rooms[name].get("Enemy", [])
71     if enemies:
72         enemy_text = enemies
73         canvas.create_text(x, y + 20, text=enemy_text, font=("Arial", 7),
   fill="red")
74
75 def draw_connection(from_room, to_room, direction, label=True):
76
77     # only draw a connection if we've drawn it
78     if to_room not in room_coords:  #room_coords are only added when we draw it (
   see draw_room() function above )
79         return
80
81     x1, y1 = room_coords[from_room]
82     x2, y2 = room_coords[to_room]
83     canvas.create_line(x1, y1, x2, y2, arrow=tk.LAST)
84
85     # draw direction in middle of line if required
86     if label:
87         mid_x, mid_y = (x1 + x2) // 2, (y1 + y2) // 2
88         canvas.create_text(mid_x, mid_y - 10, text=direction, font=("Arial", 6),
   fill="grey")
89
90 # RECURSIVE function to place room and connections
91 def place_room(name, x, y, colour="lightblue"):
92
93     #if you've been here before then go back
94     if name in visited:
95         return
96
97     #add room to visited set and draw
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    visited.add(name)
    draw_room(name, x, y, colour)

    # loop through all exits and draw those
    for direction, target in rooms[name].items():

        # Only draw directions
        if direction not in directions:
            continue

        # find where to draw the room - if unknown then draw on top
        dx, dy = direction_offsets.get(direction, (0, 0))
        new_x = x + dx * 110
        new_y = y + dy * 110

        #if not already drawn - then draw it
        if target not in room_coords:
            place_room(target, new_x, new_y)

        #now connect together
        draw_connection(name, target, direction, label=False)

# Start drawing from the starting room
start_room = data.get("start","No start room")

place_room(start_room, x0, y0, colour="limegreen")

root.mainloop()

```