

## CODE for Room Generation

NOTE: Rather than eventually having to write ~98 different turtle functions in order to visualize our rooms, we considered a procedural generation program to produce the room's turtle code for us by pulling entries from our dictionary and outputting a turtle capable of tracing that room. After speaking with Sabir and Ayesha in lecture on Wednesday we moved forward with that idea. Therefore, there are not 5 individual functions that draw 5 different rooms, rather one function and a dictionary worth of rooms that have the potential to be generated at any time. Please consider this when looking at the assignment! :)

```
import turtle
import sys

screen = turtle.Screen()
screen.title("Name of Turtle Design Here")
screen.setup(width=800, height=800)

t = turtle.Turtle()

t.speed(0)

locations = {
    "dorm": {
        "initialDescription": "You are standing in your dorm. Your roommate, Brad, is watching TV on his bed. In your room there is a door, a window, and your desk.",
        "description": "DORM\nBrad is still watching TV. There is a window, a door, and a desk.",
        "type": "reg_room",
        "exits": {"east": "dormhall"},
        "actions": {
            "open window": "You see the campus and feel the breeze off Lake Superior.",
            "jump out window": "You fall to your death. What were you thinking?",
            "backpack": "***BACKPACK COMPONENTS**"
        }
    },
    "dormhall": {
        "initialDescription": "****",
        "description": "You've made your way to the main dorm hallway. You see a sign for the LSH office to the north.",
    }
}
```

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        "type": "hall",
        "exits": {"north": "LSHdesk", "west": "dorm", "south": "offcampus"},
        "actions": {"backpack": "***BACKPACK COMPONENTS***"}
    },
    "LSHdesk": {
        "initialDescription": "****",
        "description": "You are in front of the LSH office",
        "type": "reg_room",
        "exits": {"south": "dormhall", "east": "diningcenter"},
        "actions": {"open door": "The door is locked.",
            "backpack": "***BACKPACK COMPONENTS***"}
    },
    "diningcenter": {
        "initialDescription": "****",
        "description": "You stop a moment to look inside the dining center. The
food looks like it is suitable for a dog.",
        "type": "reg_room",
        "exits": {"west": "LSHdesk", "east": "kirby3"},
        "actions": {"backpack": "***BACKPACK COMPONENTS***"}
    },
    "kirby3": {
        "initialDescription": "****",
        "description": "You are at the top of a large and busy stairwell. To
your north and south are two sets of doors.",
        "type": "reg_room",
        "exits": {"north": "rafters", "south": "kirbyballroom", "west":
"diningcenter"},
        "actions": {"backpack": "***BACKPACK COMPONENTS***"}
    },
    "kirby2": {
        "initialDescription": "****",
        "description": "You are halfway down the stairs. To the south is the
Office of Diversity and Inclusion. To the north, you spot the school store and
a food court.",
        "type": "reg_room",
        "exits": {"north": "foodcourt", "south": "kirbyplaza2", "west":
"kirby3"},
        "actions": {"backpack": "***BACKPACK COMPONENTS***"}
    },
    "kirby1": {
        "initialDescription": "****",
        "description": "You are at the bottom of a large stairwell. You see
hallways leading in all directions.",
        "type": "reg_room",
        "exits": {"north": "kirbyplaza1", "south": "heller1", "west": "kirby2",
"east": "cinahall"},
        "actions": {"backpack": "***BACKPACK COMPONENTS***"}
    },
    "heller1": {

```

```

        "initialDescription": "****",
        "description": "The hallway continues to run north-south. There is a
stairwell that takes you to the second floor of Heller Hall.",
        "type": "reg_room",
        "exits": {"north": "kirby1", "south": "lifescience1", "west":
"heller2"},
        "actions": {"backpack": "***BACKPACK COMPONENTS***"}
    },
    "heller2": {
        "initialDescription": "****",
        "description": "This hallway is of no interest to you.",
        "type": "reg_room",
        "exits": {"north": "heller1", "south": "heller3"},
        "actions": {"backpack": "***BACKPACK COMPONENTS***"}
    },
    "heller3": {
        "initialDescription": "****",
        "description": "You are on the top floor of Heller Hall. A door with
chains and a vicious dog blocks your way.",
        "type": "reg_room",
        "exits": {"north": "heller2", "west": "thomasbuckoffice"},
        "actions": {"backpack": "***BACKPACK COMPONENTS***"}
    },
    "lifescience1": {
        "initialDescription": "****",
        "description": "Life Science Floor 1 has large lecture halls. A hallway
leads south and east.",
        "type": "reg_room",
        "exits": {"north": "heller1", "south": "MWAH1", "east": "chemistry2"},
        "actions": {"backpack": "***BACKPACK COMPONENTS***"}
    },
    "lifesciencegr": {
        "initialDescription": "****",
        "description": "Some classrooms and offices. You faintly remember
traveling to the observatory as a kid.",
        "type": "reg_room",
        "exits": {"north": "lifescience1", "south": "MWAHgr"},
        "actions": {"backpack": "***BACKPACK COMPONENTS***"}
    },
    "lifescience2": {
        "initialDescription": "****",
        "description": "This hallway looks like every other one on campus.",
        "type": "hall",
        "exits": {"north": "heller2", "south": "lifescience1"},
        "actions": {"backpack": "***BACKPACK COMPONENTS***"}
    },
    "lifescience3": {
        "initialDescription": "****",

```

```
    "description": "The top floor of the Life Science building. A hallway
breaks north and a skyway is to the west.",
    "type": "reg_room",
    "exits": {"north": "heller3", "west": "swensonscience1"},
    "actions": {"backpack": "***BACKPACK COMPONENTS***"}
},
    "MWAH1": {
        "initialDescription": "****",
        "description": "You are at the farthest south point on campus. A hall
heads north and east.",
        "type": "reg_room",
        "exits": {"north": "lifescience1", "east": "schoolofmedicine1"},
        "actions": {"backpack": "***BACKPACK COMPONENTS***"}
    },
    "MWAHgr": {
        "initialDescription": "****",
        "description": "You are on the ground floor of Marshall W. Alworth Hall.
There is a set of stairs and a circular building you're unsure about.",
        "type": "reg_room",
        "exits": {"north": "MWAH1", "south": "planetarium"},
        "actions": {"backpack": "***BACKPACK COMPONENTS***"}
    },
    "MWAH2": {
        "initialDescription": "****",
        "description": "Nothing seems to interest you on this floor.",
        "type": "reg_room",
        "exits": {"north": "MWAH1", "south": "MWAH3"},
        "actions": {"backpack": "***BACKPACK COMPONENTS***"}
    },
    "MWAH3": {
        "initialDescription": "****",
        "description": "Nothing seems to interest you on this floor.",
        "type": "reg_room",
        "exits": {"north": "MWAH2", "south": "MWAH4"},
        "actions": {"backpack": "***BACKPACK COMPONENTS***"}
    },
    "swensonscil": {
        "initialDescription": "****",
        "description": "The Swenson building feels new and open, with large
amounts of natural light. To the east is a skyway connecting to the Life
Science building.",
        "type": "reg_room",
        "exits": {"east": "lifescience2", "south": "swensonscigr"},
        "actions": {"backpack": "***BACKPACK COMPONENTS***"}
    },
    "swensonscigr": {
        "initialDescription": "****",
        "description": "You are on the ground floor of Swenson Science.",
        "type": "reg_room",
```

```

    "exits": {"north": "swensonsci1"},
    "actions": {"backpack": "***BACKPACK COMPONENTS***"}
  },
  "swensonsci2": {
    "initialDescription": "****",
    "description": "There are some labs and classrooms up here, but all the
doors seem locked.",
    "type": "reg_room",
    "exits": {"north": "swensonsci1"},
    "actions": {"backpack": "***BACKPACK COMPONENTS***"}
  },
  "chemistry1": {
    "initialDescription": "****",
    "description": "A hallway runs north to south with locked doors to the
south.",
    "type": "reg_room",
    "exits": {"north": "soloncc", "south": "chemistry2"},
    "actions": {"backpack": "***BACKPACK COMPONENTS***"}
  },
  "chemistry2": {
    "initialDescription": "****",
    "description": "The chemistry building appears very old and run down. A
hallway takes you west to the Life Science building.",
    "type": "reg_room",
    "exits": {"west": "lifesciencel", "north": "chemistry1", "south":
"chemistry3"},
    "actions": {"backpack": "***BACKPACK COMPONENTS***"}
  },
  "chemistry3": {
    "initialDescription": "****",
    "description": "There is some caution tape blocking the stairs on the
way up.",
    "type": "reg_room",
    "exits": {"north": "chemistry2", "south": "chemistry4"},
    "actions": {"backpack": "***BACKPACK COMPONENTS***"}
  },
  "chemistry4": {
    "initialDescription": "****",
    "description": "This floor feels abandoned, but you notice a light on in
a lab.",
    "type": "reg_room",
    "exits": {"north": "chemistry3", "east": "chemistrylab4"},
    "actions": {"backpack": "***BACKPACK COMPONENTS***"}
  },
  "soloncc": {
    "initialDescription": "****",
    "description": "A hallway leads north, and another leads east. Students
study intently.",
    "type": "reg_room",

```

```

        "exits": {"north": "cinahallgr", "east": "darlandadmin"},
        "actions": {"backpack": "***BACKPACK COMPONENTS***"}
    },
    "darlandadmin": {
        "initialDescription": "****",
        "description": "The doors ahead are locked.",
        "type": "reg_room",
        "exits": {},
        "actions": {"backpack": "***BACKPACK COMPONENTS***"}
    },
    "cinahallgr": {
        "initialDescription": "****",
        "description": "This hallway feels darker than the rest. Doors advertise
photography classes.",
        "type": "reg_room",
        "exits": {"north": "humanities2", "south": "soloncc"},
        "actions": {"backpack": "***BACKPACK COMPONENTS***"}
    },
    "cinahall1": {
        "initialDescription": "****",
        "description": "You have arrived at Cina Hall. The area is bright and
lively.",
        "type": "reg_room",
        "exits": {"north": "humanities3", "west": "kirbyplazal", "south":
"cinahallgr"},
        "actions": {"backpack": "***BACKPACK COMPONENTS***"}
    },
    "cinahall2": {
        "initialDescription": "****",
        "description": "This floor is very boring. A hall leads to Humanities,
and stairs go up and down.",
        "type": "reg_room",
        "exits": {"north": "humanities4", "south": "cinahall1"},
        "actions": {"backpack": "***BACKPACK COMPONENTS***"}
    },
    "cinahall3": {
        "initialDescription": "****",
        "description": "You have wandered to Cina Hall floor three, but there is
nothing of interest here.",
        "type": "reg_room",
        "exits": {"north": "cinahall2"},
        "actions": {"backpack": "***BACKPACK COMPONENTS***"}
    }
}

def create_room(roomID):

    location_entry = locations[f"{roomID}"]["exits"]

```

```
type = locations[f"{roomID}"]["type"]
```

```
roomID = roomID.upper()
```

```
def turtle_exit():
```

```
    t.left(90)
```

```
    t.forward(25)
```

```
    t.right(90)
```

```
    t.penup()
```

```
    t.forward(100)
```

```
    t.right(90)
```

```
    t.pendown()
```

```
    t.forward(25)
```

```
    t.left(90)
```

```
def turtle_halls():
```

```
    t.forward(300)
```

```
    t.right(90)
```

```
    t.penup()
```

```
    t.forward(100)
```

```
    t.right(90)
```

```
    t.pendown()
```

```
    t.forward(300)
```

```
    t.left(90)
```

```
exit_east = False
```

```
exit_west = False
```

```
exit_north = False
```

```
exit_south = False
```

```
if "north" in location_entry:
```

```
    exit_north = True
```

```
else:
```

```
    pass
```

```
if "south" in location_entry:
```

```
    exit_south = True
```

```
else:
```

```
    pass
```

```
if "east" in location_entry:
```

```
    exit_east = True
```

```
else:
```

```
    pass
```

```
if "west" in location_entry:
```

```
    exit_west = True
```

```
else:
```

```
    pass
```

```
# Displays Room Name
```

```
t.teleport(-240, 275)
```

```

t.write(f"{roomId}", False, "left", font=("Monospace", 14, 'normal'))

# GENERATES "REGULAR" ROOMS
if type == "reg_room":
    t.teleport(250, 250)
    t.right(90)
    t.forward(200)
    if exit_east == True:
        turtle_exit()
    else:
        t.forward(100)
        t.forward(200)
        t.right(90)
        t.forward(200)
    if exit_south == True:
        turtle_exit()
    else:
        t.forward(100)
        t.forward(200)
        t.right(90)
        t.forward(200)
    if exit_west == True:
        turtle_exit()
    else:
        t.forward(100)
        t.forward(200)
        t.right(90)
        t.forward(200)
    if exit_north == True:
        turtle_exit()
    else:
        t.forward(100)
        t.forward(200)
        t.right(90)

# GENERATES HALLS
elif type == "hall":
    t.teleport(50, 50)
    if exit_east == True:
        turtle_halls()
    else:
        t.right(90)
        t.forward(100)
    if exit_south == True:
        turtle_halls()
    else:
        t.right(90)
        t.forward(100)
    if exit_west == True:

```



```

        turtle_halls()
    else:
        t.right(90)
        t.forward(100)
    if exit_north == True:
        turtle_halls()
    else:
        t.right(90)
        t.forward(100)

# GENERATES UNIQUE ROOMS
elif type == "dining_center":
    pass

turtle.exitonclick()

```

## CODE for MENUS

```

def start_menu():
    # i is used to end the while loop and close the program
    i = True
    while i:
        # Displays the users options upon opening the menu
        print("-----Bulldog Brawl Menu-----")
        print("1. Play Game")
        print("2. Instructions")
        print("3. Quit Game")
        # Prompts for user input
        menu_choice = input("\nMake A Selection (1, 2, 3): ")
        # Checks for valid inputs and runs correct function where necessary
        if menu_choice == "1":
            play_game()
        elif menu_choice == "2":
            show_instructions()
        elif menu_choice == "3":
            # Sets i to False, thus ending the while loop and completing the
            start_menu() function
            i = False

# initializes the start menu function upon program start
start_menu()

```

## 5 Example Representation Rooms:

