# CUBE

Premise

You've woken up trapped inside a mysterious cube made up of 216 rooms. Each of the walls around you (including the ceiling and floor) has a label with a number on it, and there is a button in the room that lets you "check" the room you are currently in. The label on the button says that you need to select all the "coprime" rooms in order to escape, but selecting an incorrect room will result in immediate death. Each room also has a door on each of its four walls as well as a hatch on the floor and ceiling you can use to ascend and descend the floors. As you explore the cube and enter different rooms, you realize that it loops every time you hit the boundaries, which means that the only way out is to solve the puzzle of the coprime rooms. Best of luck!

Cube Structure

The cube is a 6x6x6 box of rooms, and any time you hit the boundary of the cube you will loop around to the other side. That means that if you were to walk forward 6 times without turning, you would end up back in the room you started at. This applies to every axis of the cube, including moving up and down.

Number Labels

Each room has 6 labels visible inside of it- one on each of the four walls, one on the floor, and one on the ceiling. However, you won't be able to see the label on the wall behind you, so you will have to turn to see all of the labels in a given room. The labels will appear as shown below:
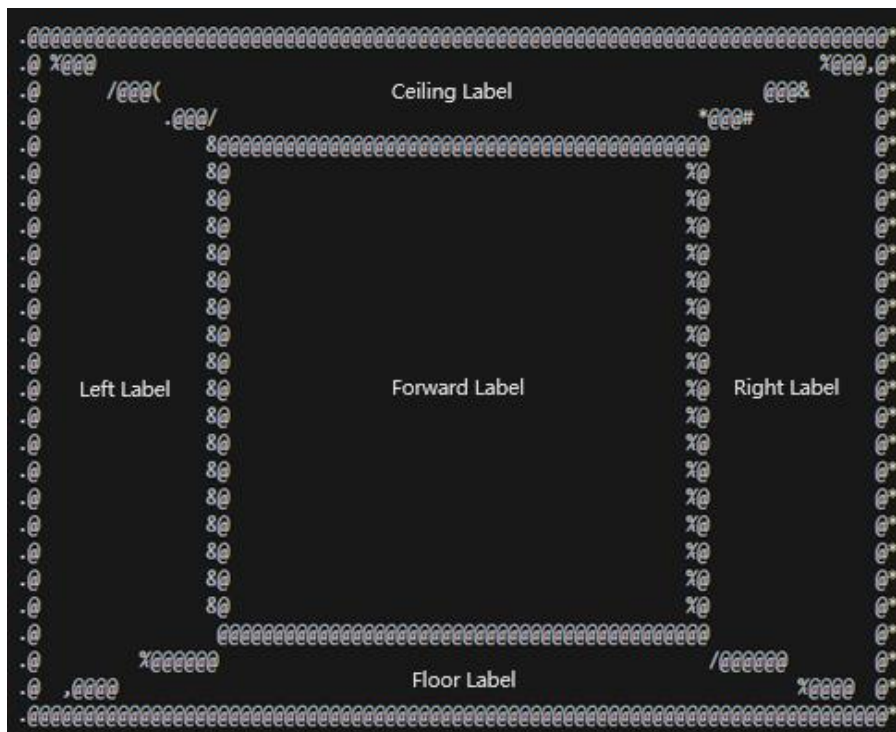
It is important to note that the labels you see inside of a room do NOT apply to the room you are currently in - instead, they apply to the room that they lead to. For instance, the label directly ahead of you applies to the room that is one room ahead, the label on the ceiling applies to the room above, and so on. That means that, in order to see all the labels that apply to any room, you will have to enter all of the adjacent rooms surrounding it and read them from the outside.

Coprime Rooms

A room is considered coprime if all of the labels that apply to it are coprime numbers, which means that none of the numbers can share a common factor greater than one. To escape the cube and get the flag, you need to travel around the cube to find all 26 of the coprime rooms present throughout it. Once you have found them, they each need to be selected using the "check room" action while standing inside of the coprime room.

Actions

"Move forward" ("F") - Move one room forward in the direction you are currently facing

"Move up" ("U") - Move one room up from the current room

"Move down" ("D") - Move one room down from the current room

"Turn right" ("R") - Turn 90 degrees to the right

"Turn left" ("L") - Turn 90 degrees to the left

"Check room" ("C") - Select the current room as coprime