



PROBLEM OF THE WEEK #8
(Spring 2024)

The Super Pokémon Quality Resort has 12 guest rooms: a row of six rooms on the first floor, and six more rooms right above them on the second floor. Tonight, each room holds one Pokémon: a total of 4 Squirtles, 4 Charmanders, and 4 Bulbasaur. Every room has its own light, and the Pokémon that are watchful keep their lights on at night, but those that aren't watchful turn their lights off.

Here's what makes the Pokémon watchful:

- A Squirtle is watchful if it's staying in the room directly between a Charmander's room and a Bulbasaur's room; otherwise the Squirtle is not watchful.
- A Charmander is watchful if it's staying in the room directly between two Bulbasaur's rooms; otherwise the Charmander is not watchful.
- A Bulbasaur is watchful if it's staying in a room that's directly above or below a Charmander's room; otherwise the Bulbasaur is not watchful.

The lighting pattern of the rooms in the S.P.Q.R. tonight is shown in the diagram below. Which rooms are the Squirtles staying in?



[Please fully explain your answer.]

Email solutions to kwonmi@uwplatt.edu by 2:00pm on Wednesday, March 27, 2024.

Every week, the best solution submitted earns a \$10 Platteville gift certificate; the top scorer each semester also wins a cash award. Good luck!

You can always see the Problem of the Week (and complete rules) online at:

<http://uwpmath.weebly.com/>