EXERCISES 11: LECTURE REPRESENTATION THEORY

Exercise 1. Classify the simple $C_{i,p}$-representations over $\mathbb{C}$. What about other fields? (For $C_{i,p}$ see the previous exercise sheet.)

Hint: The cell structure of $C_{3,2}$ is

Exercise 2. Classify the simple T_3-representations over $\mathbb{C}$. What about other fields? (For T_3 see the previous exercise sheet.)
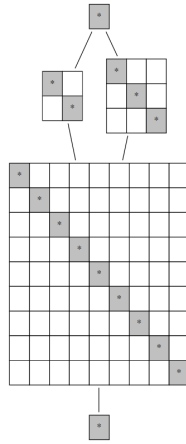
Hint: The cell structure of T_3 is

Exercise 3. Classify the simple TL_n-representations over arbitrary fields. (For TL_n see the previous exercise sheet.)

Hint: The cell structure of TL_4 is

Exercise 4. A not further specified monoid S has cell structure

with gray boxes indicating idempotent $\mathcal{H}$ cells.

What can you say about the simple S-representations?

- ▶ The exercises are optimal and not mandatory. Still, they are highly recommend.
- ▶ There will be 12 exercise sheets, all of which have four exercises.
- ▶ The sheets can be found on the homepage www.dtubbenhauer.com/lecture-rt-2022.html.
- ▶ Slogan: "Everything that could be finite is finite, unless stated otherwise.". For example, groups are finite and representations are on finite dimensional vector spaces.
- ▶ There might be typos on the exercise sheets, my bad, so be prepared.