

## C2.3 REPRESENTATION THEORY OF SEMISIMPLE LIE ALGEBRAS

### HT 2024

#### Instructions for handing in exercises

Problem sheets are divided into Sections A, B and C, and markers will only mark Section B of problem sheets 1 and 3. Solutions will be provided for the other sections.

- Sheet 1:** Section A = rest of exercises 4 and 5  
**Section B = exercise 1, 2(i)(ii), 4(ii)(iii)**  
Section C = rest of exercises 1 and 2
- Sheet 2:** Let's just do **Exercises 1 and 5**.
- Sheet 3:** Section A = exercises 2 and 4 of sheet 2.  
**Section B = exercises 1 and 2, along with exercise 1(v) of sheet 2.**  
Section C = exercise 3
- Sheet 4:** Let's do **Exercises 1, 4 and 5**, along with this one:  
• Decompose the tensor square of the adjoint representation of  $\mathfrak{sl}(3)$  into irreducible representations.

Exercises should be handed in on Monday at noon, three days before the tutorial.