Quarterly Report

Elliot Costi

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1 Reading

1. Introduction to Lie Algebras and Representation Theory by James Humphreys - Chapters 1, 2 3 and 4 of 7.

2 Research

1. Tidied up Symplectic natural representation code

2. Extended natural representation code for Ω^+ and Ω^- so that they work for small dimensions

3. Extended testing procedure to test the above

4. Fixed bug in Ω^o code

5. Timed `Ruth2` and analysed these timings

6. Extended the Ω^+ code so that it works for $^+$

7. Fixed bug in SU code

8. Tidied up Symplectic non-natural representation code

9. Tidied up Ω^+ non-natural representation code

10. Rewrote `MatrixPGroupWordInGen` so that it was no longer performing an unnecessary action

11. Wrote a piece of code to see why evaluating an SLP on one set of matrices takes longer than performing this evaluation on another

12. Modified `Ruth2` so that it would run faster for elementary abelian groups

13. Modified Ω^- natural representation code so that `Ruth2` is no longer needed to perform calculations

14. Made an attempt to rewrite the Ω^- code so that it works on a different generating set. No real progress has been made with this as yet

15. Provided timings for all classical groups

16. Wrote more of my thesis. Now on 53 pages.

3 Seminars

1. I gave a talk to the Postgraduate Group Theory Conference in Oxford

2. I gave a talk at the third year presentation day in May

3. I gave three seminars on Coxeter / Reflections Groups at the representation theory seminar series