

## Homework 10

Due Monday April 28, 2008 at the beginning of class. Think of this as a firm deadline. If I figure out how to do the problem, then I'll do it in our final meeting on Tuesday, April 29.

14. Classify the irreducible representations of the Lie algebra  $\mathfrak{gl}_2(\mathbb{C})$ . Give the most complete argument you can give. If at some point or points you have to write "I think XXX is true, but I don't know how to prove it yet", then write it and keep going. I figure that something like the argument of section 11.1 in FH will work. (In this section, the irreducible representations of  $\mathfrak{sl}_2(\mathbb{C})$  are classified.) But, do whatever you like, use whatever you like, and try to write something that makes sense to you.