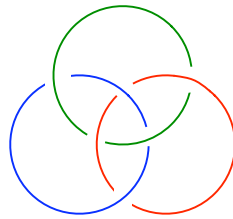


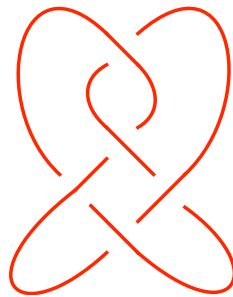
CS E6204 Exercise Set 2

due 5 or 7 April 2010 (your choice)

1. Draw a 6-vertex connected simple graph whose vertex automorphism group is (abstractly) isomorphic to $\mathbb{Z}_2 \times \mathbb{Z}_2 \times \mathbb{Z}_2$. Hint: Start with a 4-vertex graph with automorphism group $\mathbb{Z}_2 \times \mathbb{Z}_2$, and remember that the edge-complement of a graph has the same automorphism group.
2. Evaluate Tutte's Theorem (p24 of Lec 6) for $p = 11$, and list the different graphs.
3. Draw a Celtic grid for the Borromean rings.



4. Use a skein tree to calculate the Alexander polynomial of the knot 5_2 .



5. Use a skein tree to calculate the Jones polynomial of the knot 5_2 .