Tutorial Sheet 6

- 1. Show that the Halting problem is not NP-complete.
- 2. Let HALF-CLIQUE be the set of graphs G on n vertices such that G contains a clique of size at most n/2. Show that HALF-CLIQUE is NP-complete.
- 3. The 100-Clique problem asks whether a given graph has a clique of size 100. Show that if 100-Clique is NP-complete, then NP = P.
- 4. Show that the 2-SAT problem can be solved in polynomial time.
- 5. Let Double-SAT be the language of CNF formulae which have at least 2 satisfying assignments. Show that Double-SAT is NP-complete.