G51DBS 2009/10 first assessed coursework (cw1)

Weighting: 5 % of the course mark.
Deadline: 12 February at 15:00, submit to the School of Computer Science office. If you are **really, really** stuck you can submit by email to `nza@cs.nott.ac.uk`, a pdf file (no other formats accepted), subject line G51DBS cw1 submission.

This coursework is based on last year's exam question.

You are asked to design a database for the following scenario. A research laboratory is running several drug trials on healthy volunteers to check whether drugs have side effects. Each drug has a unique name. Each trial involves exactly one drug and several volunteers (who take the drug and report if they had any side effects). For each volunteer in each trial it needs to be recorded whether the volunteer had any side effects, and if yes, what those side effects were (there could be several side effects experienced by the same person, for example headache, dry mouth, and fever). It is important that side-effects are described using some standard terminology, so that the laboratory can report what proportion of volunteers had the same side effect. For example, the researchers may tell you that headache should always be recorded as 'headache' and not sometimes as 'pain in the head' and sometimes as 'sore head'. There is however no fixed pre-defined set of possible side effects, because new effects can always be discovered (for example the drug may turn people a bright green colour). For simplicity, assume that each volunteer takes part in at most one drug trial. Data stored about volunteers is their National Insurance number, name, age, gender, address and telephone number.

1. Draw an entity-relationship diagram for the drug trial scenario.

2. List resulting database tables. State what are the candidate keys in each table and what are foreign keys (if any).