

**LGIC 010 & PHIL 005**

**Problem Set 4**

**Spring Term, 2009**

1. (25 points) How long a list of pure monadic schemata involving only the predicate letters “ $F$ ” and “ $G$ ” can be constructed so that no two schemata on the list are equivalent?
2. (25 points) How long a list of pure monadic schemata involving only the predicate letters “ $F$ ” and “ $G$ ” can be constructed so that no two schemata on the list are equivalent and no schema on the list is implied by “ $(\exists x)(Fx \wedge Gx)$ ”?
3. (25 points) How long a list of pure monadic schemata involving only the predicate letters “ $F$ ” and “ $G$ ” can be constructed so that each schema on the list implies the next schema on the list, but is not implied by it?
4. (25 points) How long a list of pure monadic schemata involving only the predicate letters “ $F$ ” and “ $G$ ” can be constructed so that each schema on the list implies the next schema on the list, but is not implied by it, and each schema on the list implies “ $(\forall x)(Fx \supset Gx)$ ”?