Predicate Logic I

1. Translate the following sentences into QL.[1]
   Lexicon: K = killed, a = Brutus, b = Caesar.
   (a) Brutus killed Caesar.
   (b) Someone killed Caesar.
   (c) Brutus killed someone.
   (d) Someone killed someone (else).
   (e) Someone killed herself/himself.
   (f) Someone killed everyone.
   (g) Everybody killed someone.

2. Suppose the following lexicon: a = Hume, b = Locke, c = Berkeley, F = is a philosopher, G = is wise, and R = likes. Translate into QL.
   (a) If Locke was a philosopher then Hume and Berkeley were wise.
   (b) Hume liked Locke but does not like Berkeley.
   (c) If Berkeley was wise, then if Hume was a philosopher, Locke was wise.
   (d) Nobody likes Berkeley.
   (e) If Hume liked Locke, then someone liked Locke.
   (f) Whoever liked Berkeley is wise.
   (g) Any philosopher who was liked by Hume likes Locke.

3. Using the lexicon of exercise 2, translate these QL sentences into English.
   (a) $\exists x(\sim Gx \supset \sim Rxa)$
   (b) $\exists x(Fx \ \& \ \sim Rxa \ \& \ Rxb \ \& \ Rxc)$
   (c) $\sim \exists x(Fx \ \& \ Gx) \ \& \ Rcx)$
   (d) $\forall x Gx \supset \exists y(Fy \ \& \ Rxy)$
   (e) $\sim \forall x(\sim Rxb \ \& \ Rax)$
   (f) $Raa \supset \exists x(\sim Fx \ \& \ \sim Gx)$

4. Translate the following sentences into QL, using this lexicon: a = Jack, b = Jill, c = Jerry, F = is a man, G = is a woman, L = loves, and R = prefers … to ….[2]
   (a) Whoever is loved by Jack is loved by Jill as well.
   (b) Jerry loves some woman who loves Jack.
   (c) Every man loves Jill and Jill loves someone.
   (d) Everybody loves Jack but Jill prefers Jerry to Jack.
   (e) Anyone who prefers Jack over Jerry does not love Jill.
   (f) Jerry only loves women.

---

1   After Lemmon, E. J. (1965) *Beginning Logic*. Sunbury-on-Thames: Nelson (p. 103).
2   After Smith, P. (2003). *Formal Logic*. Cambridge: Cambridge University Press (pp. 219–20).