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On semi-normal lattice rings

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A lattice ring is a lattice group ((1), page 214) and a ring in which $ab \geqslant 0$ whenever $a \wedge b \geqslant 0$.

In any lattice group (commutative or not) we define $a^+ = a \vee 0$, $a^- = (-a) \vee 0$ and $|a| = a^+ + a^-$. It is known ((1), pages 219, 220) that $a^+ \wedge a^- = 0$, $a = a^+ - a^-$, $|a| = a^+ \vee a^-$, and that $a \wedge (b \vee c) = (a \wedge b) \vee (a \wedge c)$, and $a \vee (b \wedge c) = (a \vee b) \wedge (a \vee c)$. For a non-empty subset M of a lattice group we define

$$M^\perp = \{x \colon |x| \wedge |m| = 0 \quad (m \in M)\}.$$

A lattice group is *Archimedean* if $a \leqslant 0$ whenever $na \leqslant b$ $(n = 1, 2, \ldots)$.

A lattice ring is *semi-normal* if

$$(ab)^{\perp\perp} \subset a^{\perp\perp} \cap b^{\perp\perp} \quad (a \wedge b \geqslant 0).$$

It is easily seen that this condition is equivalent to the condition that $ac \wedge b = 0 = ca \wedge b$

... lattice ring is semi-normal if and only if it is an

Corrigenda

The author wishes to make the following corrections to his paper, entitled 'On the relative merits of correlated and importance sampling for Monte Carlo integration', which appeared in *Proc. Cambridge Philos. Soc.* **61** (1965), 497–498.

The following equations should replace those with the same numbers in the paper:

$$u(\xi) = Mf(\xi) - M\phi(\xi) + \Phi \quad (M = \mu(S)), \tag{4}$$

$$v(\eta) = \Phi f(\eta)/\phi(\eta) \quad \text{if} \quad \eta \in R, \quad v(\eta) = 1 \quad \text{if} \quad \eta \in G, \tag{5}$$

$$\operatorname{var}\{u(\xi)\} = M\int_S (f-\phi)^2 du - \left[\int_S (f-\phi)\, d\mu\right]^2, \tag{7}$$

$$\begin{aligned} D &= M\int_S \frac{(f-\phi)^2}{\phi}\phi\, d\mu - \int_S \frac{(f-\phi)^2}{\phi}\, d\mu \int_S \phi\, d\mu \\ &= M^2 \operatorname{cov}\left\{\frac{[f(\xi)-\phi(\xi)]^2}{\phi(\xi)}, \phi(\xi)\right\}, \end{aligned} \tag{10}$$