and others (see Chapter XVII of [1]) focused on the problem of determining what abelian groups could be realized as the additive group of an Artinian ring.

The book under review addresses the group $U(R)$ in several contexts where this group has traditionally been of interest. The first context in which $U(R)$ was extensively studied was that in which R is the ring of algebraic integers of a finite algebraic number field K. The principal result in this area is the Dirichlet-Chevalley-Hasse Unit Theorem, which states that $U(R)$ is the direct product of a specified group and a free abelian group of specified finite rank; in particular, $U(R)$ is finitely generated. An important special case that lies within this setting is that in which $K = Q(\varepsilon_n)$ is the cyclotomic field of nth roots of unity over the rational field Q, and hence $R = Z[\varepsilon_n]$; the author treats this case in Chapter 3. Other topics covered are the unit groups of fields, division rings and group rings; moreover, Chapter 7 is devoted to consideration of finite generation of $U(R)$.

Karpilovsky's book brings together a broad range of topics from group theory, commutative and noncommutative ring theory, field theory, and algebraic number theory. The quality of exposition in the text is quite good; the author has done a praiseworthy job in making the material accessible to a knowledgable, but nonspecialist, reader. In the process, some generality and depth of coverage has been sacrificed in order to broaden the audience for the book. Overall, the book can be highly recommended to a reader interested in learning about a wide range of topics in which unit groups have historically played a significant role.

Reference

1. L. Fuchs, *Infinite abelian groups*, vol. II, Academic Press, New York, 1973.

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Theory of reproducing kernels and its applications, By Saburou Saitoh, Longman Scientific and Technical, 157 pp., 1988, $57.95. ISBN 0-582-03564-3

Let S be a set and $\mathscr{H}$ a Hilbert space; a mapping κ from S to $\mathscr{H} : x \to k_x$ gives rise to a kernel function

$$K(x, y) = (k_y, k_x)$$