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Let R be a commutative ring with identity. Let $\bar{F}(R)$ be the monoid of R -modules of $T(R)$, the total quotient ring of R , under multiplication. Let $F(R)$ (resp., $F^*(R)$, $P(R)$) be the submonoids of fractional ideals (resp., finitely generated fractional ideals, principal fractional ideals) of R . We give necessary and sufficient conditions for these four monoids and their respective positive cones consisting of the respective integral ideals to be finitely generated. (Received September 02, 2008)