

Algorithm Design
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Solution of Exercise R-10.15

If ω is a primitive (cn) th root of unity, then $1, \omega, \omega^2, \dots, \omega^{cn-1}$ are all distinct. Thus, the numbers $1, \omega^c, (\omega^c)^2, \dots, (\omega^c)^{n-1}$ are all distinct. In addition, $(\omega^c)^n = \omega^{cn} = 1$.