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Recursive-Multiply( $x, y$ ):

Write  $x = x_1 \cdot 2^{n/2} + x_0$

$y = y_1 \cdot 2^{n/2} + y_0$

Compute  $x_1 + x_0$  and  $y_1 + y_0$

$p = \text{Recursive-Multiply}(x_1 + x_0, y_1 + y_0)$

$x_1 y_1 = \text{Recursive-Multiply}(x_1, y_1)$

$x_0 y_0 = \text{Recursive-Multiply}(x_0, y_0)$

Return  $x_1 y_1 \cdot 2^n + (p - x_1 y_1 - x_0 y_0) \cdot 2^{n/2} + x_0 y_0$

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