Step	Algorithm: $[C] :=$ FUNCTION_NAME_REC(A, B, C)
1a	$\{C = \widehat{C}$ $\}$
4	$A \rightarrow \left(\begin{array}{c\|c} A_{TL} & A_{TR} \\ \hline A_{BL} & A_{BR} \end{array}\right)$, $C \rightarrow \left(\begin{array}{c\|c} C_{TL} & C_{TR} \\ \hline C_{BL} & C_{BR} \end{array}\right)$ where A_{TL} is 0×0, C_{TL} is 0×0
2	$\left\{ \left(\begin{array}{c\|c} C_{TL} & C_{TR} \\ \hline C_{BL} & C_{BR} \end{array}\right) = \left(\begin{array}{c\|c} A_{TL} \otimes B & \widehat{C}_{TR} \\ \hline \widehat{C}_{BL} & \widehat{C}_{BR} \end{array}\right) \right\}$
3	while $m(A_{TL}) < m(A)$ do
2,3	$\left\{ \left(\begin{array}{c\|c} C_{TL} & C_{TR} \\ \hline C_{BL} & C_{BR} \end{array}\right) = \left(\begin{array}{c\|c} A_{TL} \otimes B & \widehat{C}_{TR} \\ \hline \widehat{C}_{BL} & \widehat{C}_{BR} \end{array}\right) \wedge m(A_{TL}) < m(A) \right\}$
5a	**Determine block size** b $\left(\begin{array}{c\|c} A_{TL} & A_{TR} \\ \hline A_{BL} & A_{BR} \end{array}\right) \rightarrow \left(\begin{array}{c\|cc} A_{00} & A_{01} & A_{02} \\ \hline A_{10} & A_{11} & A_{12} \\ A_{20} & A_{21} & A_{22} \end{array}\right)$, $\left(\begin{array}{c\|c} C_{TL} & C_{TR} \\ \hline C_{BL} & C_{BR} \end{array}\right) \rightarrow \left(\begin{array}{c\|cc} C_{00} & C_{01} & C_{02} \\ \hline C_{10} & C_{11} & C_{12} \\ C_{20} & C_{21} & C_{22} \end{array}\right)$ where A_{11} is $b \times b$, C_{11} is $b \times b$
6	$\left\{ \left(\begin{array}{c\|cc} C_{00} & C_{01} & C_{02} \\ \hline C_{10} & C_{11} & C_{12} \\ C_{20} & C_{21} & C_{22} \end{array}\right) = \left(\begin{array}{c\|cc} A_{00} \otimes B & \widehat{C_{01}} & \widehat{C_{02}} \\ \hline \widehat{C_{10}} & \widehat{C_{11}} & \widehat{C_{12}} \\ \widehat{C_{20}} & \widehat{C_{21}} & \widehat{C_{22}} \end{array}\right) \right\}$
8	$C_{01} = A_{01} \otimes B$ $C_{10} = A_{10} \otimes B$ $C_{11} = A_{11} \otimes B$
7	$\left\{ \left(\begin{array}{c\|cc} C_{00} & C_{01} & C_{02} \\ \hline C_{10} & C_{11} & C_{12} \\ C_{20} & C_{21} & C_{22} \end{array}\right) = \left(\begin{array}{c\|cc} A_{00} \otimes B & A_{01} \otimes B & \widehat{C_{02}} \\ \hline A_{10} \otimes B & A_{11} \otimes B & \widehat{C_{12}} \\ \widehat{C_{20}} & \widehat{C_{21}} & \widehat{C_{22}} \end{array}\right) \right\}$
5b	$\left(\begin{array}{c\|c} A_{TL} & A_{TR} \\ \hline A_{BL} & A_{BR} \end{array}\right) \leftarrow \left(\begin{array}{cc\|c} A_{00} & A_{01} & A_{02} \\ A_{10} & A_{11} & A_{12} \\ \hline A_{20} & A_{21} & A_{22} \end{array}\right)$, $\left(\begin{array}{c\|c} C_{TL} & C_{TR} \\ \hline C_{BL} & C_{BR} \end{array}\right) \leftarrow \left(\begin{array}{cc\|c} C_{00} & C_{01} & C_{02} \\ C_{10} & C_{11} & C_{12} \\ \hline C_{20} & C_{21} & C_{22} \end{array}\right)$
2	$\left\{ \left(\begin{array}{c\|c} C_{TL} & C_{TR} \\ \hline C_{BL} & C_{BR} \end{array}\right) = \left(\begin{array}{c\|c} A_{TL} \otimes B & \widehat{C}_{TR} \\ \hline \widehat{C}_{BL} & \widehat{C}_{BR} \end{array}\right) \right\}$
	endwhile
2,3	$\left\{ \left(\begin{array}{c\|c} C_{TL} & C_{TR} \\ \hline C_{BL} & C_{BR} \end{array}\right) = \left(\begin{array}{c\|c} A_{TL} \otimes B & \widehat{C}_{TR} \\ \hline \widehat{C}_{BL} & \widehat{C}_{BR} \end{array}\right) \wedge \neg(m(A_{TL}) < m(A)) \right\}$
1b	$\{C = A \otimes B$ $\}$