Analysis of D&C algorithm

$$T(n) = 8\,T(n/2) + \Theta(n^2)$$

 # submatrices

submatrix size

work adding submatrices

$n^{\log_b a} = n^{\log_2 8} = n^3 \;\Rightarrow\; \text{CASE } 1 \;\Rightarrow\; T(n) = \Theta(n^3).$

No better than the ordinary algorithm.