

Feb 18

RS Algorithm

Initialization $\leftarrow \leq T_0$

while (...) $\leftarrow \leq T_1 \leq n^2$

Body $\leftarrow \leq T_2$

Output S $\leftarrow \leq T_3$

overall runtime $\leq T_0 + T_1 \cdot T_2 + T_3$

IF we
can argue

(i) $T_0, T_3 \leq O(n^2)$
(ii) $T_2 \leq O(1)$

$$\begin{aligned} &\leq T_0 + n^2 \cdot T_2 + T_3 \\ &\leq O(n^2) + n^2 \cdot O(1) + O(n^2) \\ &\leq O(n^2) + O(n^2) + O(n^2) \\ &= O(n^2) \end{aligned}$$