20.25. LOG SQUARED N COMPLEXITY

EXAMPLE

$$for(i = 1; i \leq n; i = i * 2)\{$$
$$\quad for(j = 1; j \leq n; j = j * 2)\{$$
$$\quad\quad c = c + 1;$$
$$\}$$

ANSWER

Outer loop run : $logn$ *and inner loop run*: $logn$ *and* $c = c + 1$ *prints* $logn \times logn$ *times* = $O(log^2 n)$ *times*.