

12. Given an n -element array X of integers, Algorithm C executes an $O(n)$ -time computation for each even number in X , and an $O(\log n)$ -time computation for each odd number in X . What are the best-case and worst-case running times of Algorithm C? [5 Marks]

The best-case is to visit the heading (1) by the $O(1 \text{ or } n)$ -time computation, the Worst-case is to visit the one in the tail when it is an even ~~or~~ number.