

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 running times of C is  $\underline{\underline{O(\log n)}}$ .

The worst-case running times of C is  $O(n)$ .