

## 1 QuickSort

See the source code file `quickSort.cpp` and the tests given in `tests.cpp`.

## 2 Big-O Proofs

**Problem 1.** Show that  $4n^22n + 5$  is  $O(n^2)$ .

**Problem 2.** Show that  $3n^3 + 12n^2 - 1$  is  $O(n^4)$ .

## 3 Mystery Functions