

COMP3121 Homework Q2

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1 Answer

First method is making a double QuickSort algorithm. Pick a nut, and use it as a reference to split the bolts in three groups, too large, too small and perfect fit. Take the bolt with perfect fit and try all the nuts to divide them into three groups, too large, too small and perfect fit. Screw the perfect fits together and repeat the process with the ‘too large’ group of nuts and bolts and ‘too small’ group of nuts and bolts. This whole process can be done in $O(n\log(n))$ time. This question is similar to the tutorial 1 q12 and reference from the solution for that question is taken to give answer to this.