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| CAB301 Assignment 1  Empirical Analysis of an Algorithm | N9845097  Ka Long Lee (Eric)  Due: Friday, 12th April 2019 |

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# Description of Algorithm

# The main purpose of the algorithm is to find out the median in the given array no matter the random position or odd .It takes only one parameter which is an array contains a set of integer numbers. First of all, the algorithm creates one local variable named as k. It is for storing the median position of the input array. There are two steps for calculating the median position of the array. Firstly, dividing the length of the input array by two. Secondly, ceiling the previous result. Finally, the result will be assigned to the k variable. If the input array was already sorted before it passed to this function, the median value of the array must be located at the k position.

# The algorithm then creates a nested for loop which will repeat according to how many integer numbers exists in the input array. There are total two for loop in this case. Both loops create an indexer variable for selecting elements in the array for different purpose. Indexer variable I is created and updated by the outer loop. In contrast, Indexer j is created and updated by the inner loop. The main purpose of the outer loop is to determine the array element selected by indexer i whether median or not. On the other hand, the purpose of the inner loop is to calculate how many elements are smaller and equals to the value selected by indexer i. At the end of the outer loop,

# Implementation of the Algorithm

# Experiment Design

# Analysis of Experiential results