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Implementation of the Selection Sort Algorithm to Sort Data in PHP Programming Language

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ABSTRACT

The role of algorithms in software or programming is very important, so it is necessary to understand the basic concept of the algorithm. The sorting algorithm is, selection sort (sorting by selecting) is the process of sorting data according to certain rules so that they are ordered regularly. Sorting data consisting of some criteria have priority where the data is sorted by language PHP programming that provides the sort function to sort array data in ascending or descending order from smallest to largest. The sort function is sort data from smallest to largest digit or last letter of letters first each word prioritizes letters then numbers if the data is in that table data consists of a mixture of numbers and letters. The method used is searching the smallest element of the array and swaps it with the element in the first position, then this algorithm repeats the same thing again, namely looking for elements in second position, The process that will result from this system continues until all array elements successfully sorted.

Keyword : Data Sorting; PHP; Selection Sort

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1. INTRODUCTION

Applying algorithms in a programming context is a systematic and logical step in problem solving. Algorithms in software or programming are very important, for that you need to understand the basic concepts algorithm, with the basic concept of algorithm, a problem needs to be solved systematically, logically and can be tested. The arrangement or steps of the algorithm must be able to determine whether it is true or false [1].

Selection sort algorithm based on its name select or select, a method of sorting numbers by selecting the i-th element value and swap the selected element with another. The value of i starts from one to N, where N is the number element minus one. The way this algorithm works is by applying a looping technique, at a time loops the program selects the numbers in the first block and compares them to the numbers in the second block and third to N. If you find a number that is smaller than the number in the first block, then change the swap position [2].

The discussion of this scientific paper will contain data sorting systems, Sorting Algorithms for sorting data (selection sort) using the PHP programming language. Sorting data consisting of several criteria have priority where the data is sorted by the PHP programming language that provides the function sort to sort array data in ascending or descending order from smallest to largest value [3]-[6]. data that The data used in this study are integer type data (round numbers) and obtained by randomizing values.

2. RESEARCH METHOD/MATERIAL AND METHOD/LETERATURE REVIEW

In this study will use experimental methods of observation and analyze and design data systems which will be used. Where in the process it starts with analyzing the sorting of data by continuing with the system testing phase using the PHP programming language.

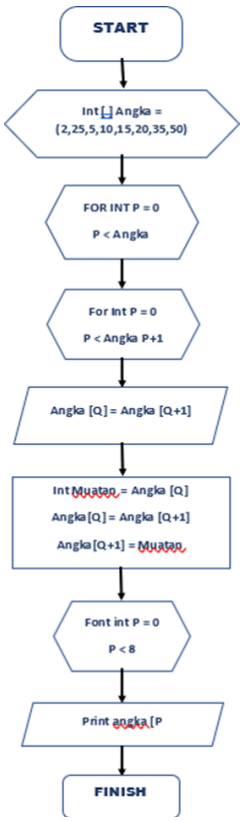

Figure 1. Data Sorting Flowchart

The device used to carry out the test is by using:
Hardware with the following specifications:
1. Processor Core i5
2. At least 2GB of RAM
3. Hard disk of at least 500 Gb

Software with the following specifications:
1. Windows 10 Operating System
2. Android Studio
3. XAMPP-PHP-MySQL Web Server

Data Sequencing Analysis Stage

Where in the process of sorting the data which consists of several criteria where the sorting of data can be done from the smallest value to the largest value (ascending) or vice versa (descending).

Design and Testing Stage

At this stage the process is carried out using the PHP program where the sorting of the data is sorted using the PHP programming language which provides a sort function to sort array data in ascending or descending order from smallest to largest value.

3. RESULTS AND DISCUSSION

Sorting with the selection method is a technique or method that aims to sort data by selecting or exchanging data from smallest to largest. Making sorting or selection sort is very easy using PHP because PHP already provides a special function to sort arrays by using the sort() and assort() functions.

Display of Tests a

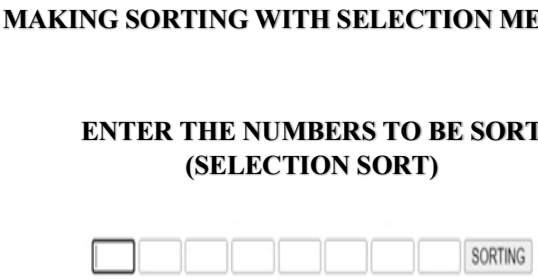

Figure 2. PHP Form Display

The display on the form above is the initial appearance of the test for making sorting using the PHP program. Where there are 8 columns, we will enter numbers in each of these columns.

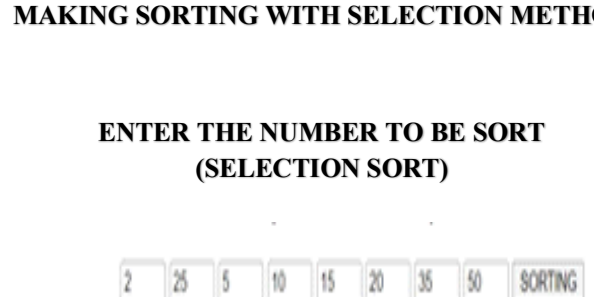

Figure 3. Entering Sorting Numbers

The display on the form above is a display for entering the numbers you want to sort. Where we will try to enter the numbers 2,25,5,10,15,20,35,50.

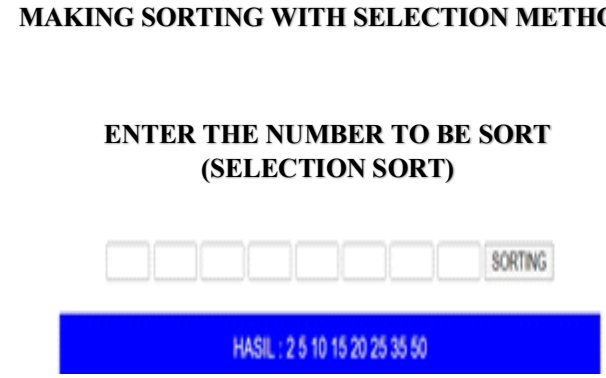

Figure 4. Sorted Results

The display on the form above is a display that has successfully sorted the numeric data that was input earlier. And we have succeeded in sorting.

4. CONCLUSION

Based on the explanation of the discussion in writing this paper, it can be concluded as follows:

1) From this research, starting from the analysis stage to designing and testing the system using the PHP programming language, it can be concluded that the PHP programming language can provide convenience in making a sorting design successfully carried out properly.
2) This test was created with the aim of facilitating the design of the application of the selection sort algorithm to sort data in the PHP programming language.

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