

Halime Özge KABAK 180403001-Sorting App

GUIDE OF MY APP

1. Log In Page:

- There is an entry on this page, if you can enter the password and username correctly, the login menu disappears and the buttons that open the other pages of the application appear. If you enter the wrong password or username, the login menu stays where it is and you get a warning message.
- You can also access some links with the buttons at the top of the page. If you press the button with the logo of our school Izmir Katip Celebi, it directs you to the engineering web page of the school. If you press the button with the Youtube icon, it directs you to the youtube page of the electrical and electronic engineering department of our school. If you press the button with the letter icon, you can send an e-mail directly to my e-mail account. When you press the button that says Guide, the guide page opens, which tells you how to use the application.
- If you press the button that says "Sorting", you can sort the arrays you have created as you want with 8 different algorithms, from smallest to largest.
- If you click the button that says "comparison", you can get graphs of 8 different sorting algorithms according to their asymptotic complexity.
- If you click the "binary search" button, it allows you to find the index of the number you are looking for in a random array.
- If you click the "find th smallest number" button, it finds the ith smallest number you selected in an array.
- If you click the button that says "matrix calculations", you can perform simple matrix multiplication, addition, subtraction and division operations on the page that opens.
- If you click on the "fibonacci sequence" button, you can find the nth index fibonacci series on the page that opens.
- Also, if you press the home page buttons on any page, you will return to this page.

2.Exit Page

- If you press one of the exit buttons on the pages, this page opens and if you press the exit button on this page, the application closes.
- On this page, you can rate the degree of liking for my application with the points you give between 0-5. I save each value entered in the document with the help of the button pressed and store it. Thus, I get feedback about the application.

3.Sorting Page

- When the graphic visibility switch on this page is in the visible position, the graphic is visible, otherwise the image is displayed instead of the graphic being closed.
- In toggle buttons, if you press the start button and select the sorting type, the sorting process will start. If you press the pause button, the process will stop, the toggle button will automatically hold the pause button pressed at the beginning. If you select the sorting type while on the pause button, the process will not start. If you press the "Clear" toggle button, the values in the chart will be cleared.
- You have to select the sorting type with the radio button group, the process starts according to the type you choose and the other radio buttons become inaccessible. After the process is finished, you must reset the radio button group by pressing the reset button, otherwise the buttons will remain inaccessible.
- Extra information; if you choose quicksort, it will sort according to the pivot I chose, but if you tick the checkbox, you can choose your pivot with the help of the spinner that appears on the side.
- You can speed up and slow down the animation with the help of the slider on the speed panel. You can select the max and min limits of the slider with the max and min knobs on the side. You don't have to stay with the values in this knob. You can increase the limits with the multiplier knob. The speed will be displayed in the edit box below.
- Finally, you can enter your own array with the help of the edit fields, but for this, you must set the mode knob to the "add your array" position and then enter your array with a comma between them. When you come to the "add number to array" mode, you can add any number you want to a randomly created array.³. In the mode, a random array is formed.
- Special array knob, on the other hand, is active if the array mode is in "random array" mode and cannot be used in other modes. If you select the "Non-repeated" option, an array of non-repeating numbers will appear. If you select the "only odd" option, an array of only odd numbers will appear. It turns out, if you select "only even", an array of even numbers will appear. If it is off, the knob is off.
- You can determine the length of the array with the help of the length knob and you can increase this value with the help of the multiplier knob without being bound by the limits. The product value is displayed in the edit field at the bottom.
- Finally, you can specify the maximum value that can be found in the array by typing it into the "max element edit field".

4.Comparison Page

- On the comparison page, mark the sorting types you want to compare and set the switch to "on". After waiting for a while, you can see the graph of the asymptotic complexity of the sorting types which I specified with their colors on the right side. If you press the "Clear" button, the graph is cleared. If you press the "Compare all sorting

types" button, you do not need the switch. You can compare all sorting types without the need for switch.

5.Other Pages

- Other pages perform their functions when opened, as I explained in the login menu.