Tanveer bariana

Design document

Mergsort program

This is program that prompts a person for the length and values in an array. It then takes that array and finds the median.

I used

https://www.cs.cmu.edu/~adamchik/15-121/lectures/Sorting%20Algorithms/code/MergeSort.java for a base in java but I had to change all Comparable casts into int to work with my Median   method.

 The main calls the mergeSort(int [ ] a) to set up the temporary array tmp to store half of the array later.

 It then goes to the actual mergsort sort method from there. The sort method is called recursively to break up the array to smaller parts. It then compares the parts together and stores them back in the original array to be printed out in the main.

After the main prints the array I call the median method to find the median.

It checks to see if the array size is even. If it is it takes the two center values and averages them. If its odd it takes the middle value.

_____

SAMPLES

INPUT

 4

3

2

1

4

OUTPUT

[1, 2, 3, 4]

Median is 3.5

****

INPUT

5

1

23

5

4

OUTPUT

[1, 3, 4, 5, 23]

mediam is 3.5