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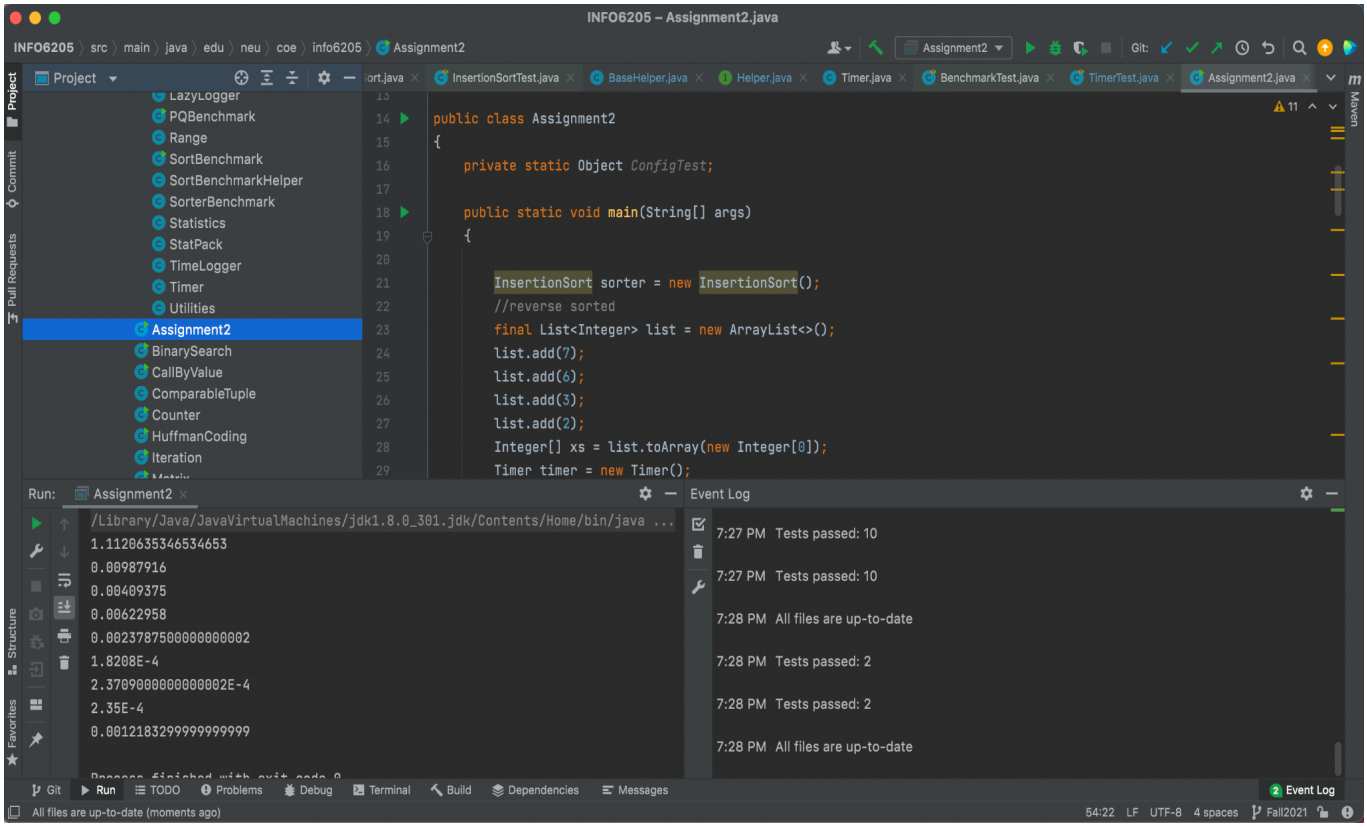
➔ Task done in this assignment:

1. In the timer, I added a condition when preFunction and postFunction are not null. I added pause before the loop and while loop runs resume is mentioned and then lap for counting laps. For not counting post function time, I used pause. The clock was paused, but according to the question clock should be resumed. So once the loop is done, I use a resume. For returning the number of counts, I used meanLapTime.
2. In the InsertionSort, I added the code of for loop and then I put the condition of comparing and swapping with the help of swapStableConditional.
3. In the file name Assignment 2.java, I made four arrays which were reversed,random,partially,sorted. After doing insertion sort for each of them, I counted the timer. Secondly, I made a loop for creating an array with double size and with random numbers and calculated timer value.

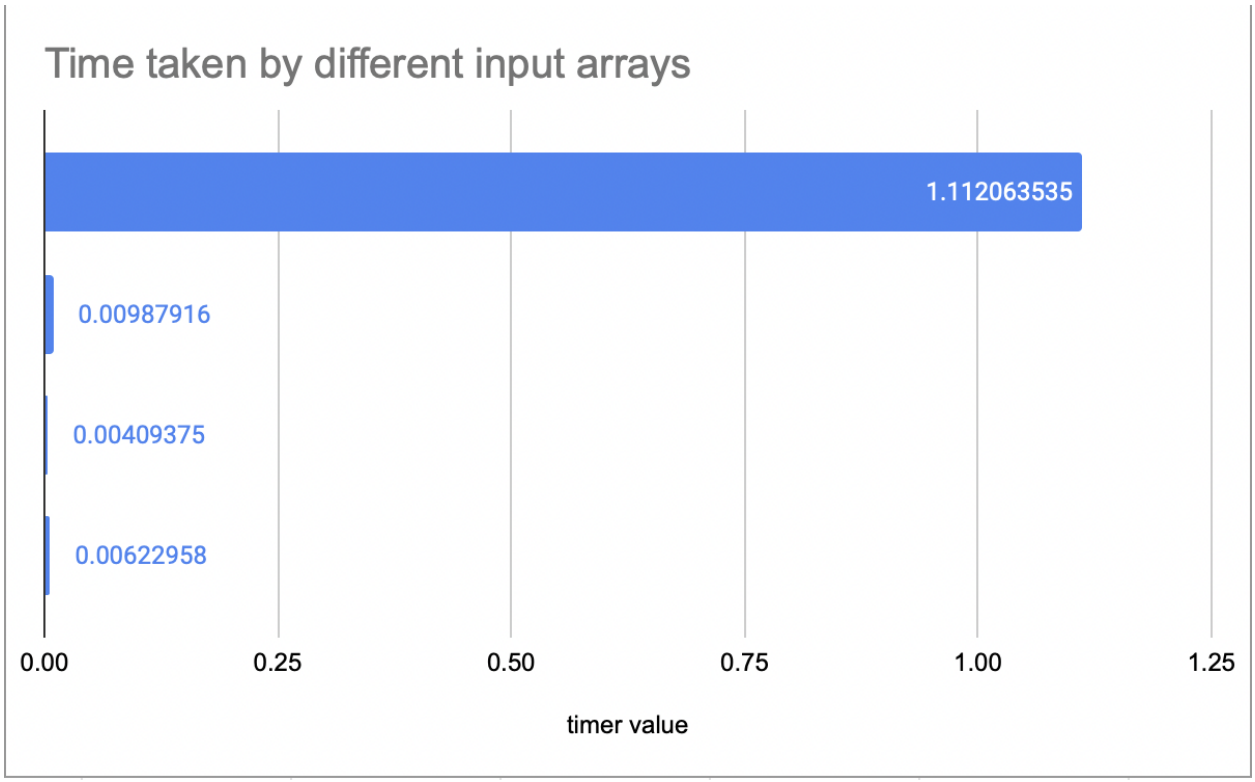
The screenshot of main method (or part 3 of assignment) Assignment2.java code compilation and output

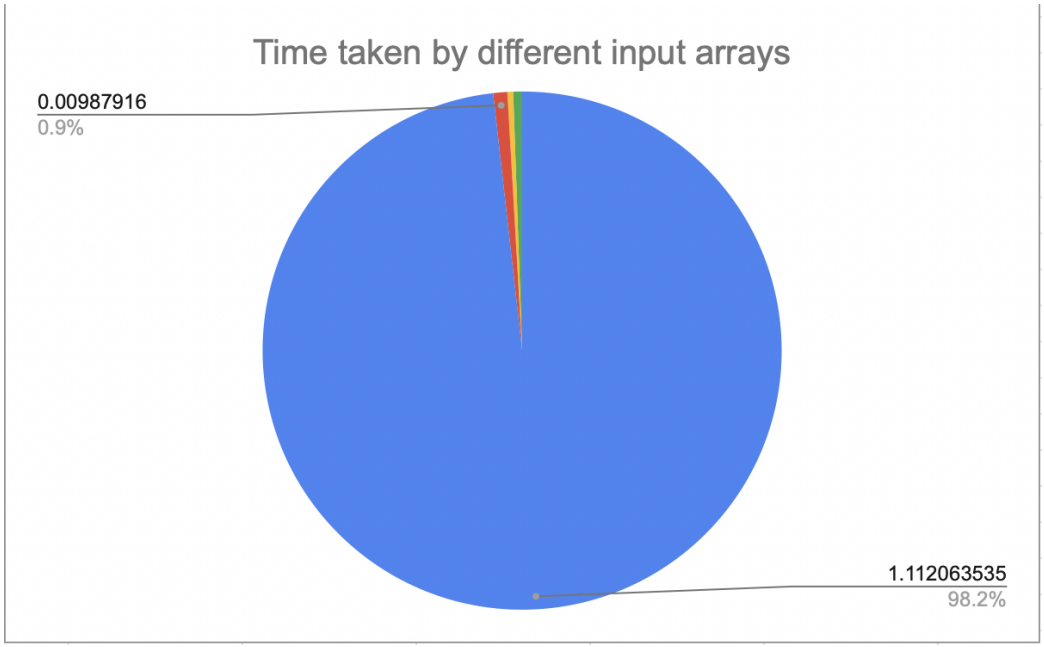


The link for file Assignment2.java :
https://github.com/Namrata2108/INFO6205/blob/Fall2021/src/main/java/edu/neu/coe/info6205/Assignment2.java

- ➔ Conclusion about time taken by various kinds of input arrays. The maximum time was taken by a reverse sorted array. Time taken by partially ordered and sorted arrays are quite small and similar. With the help of charts below, we can say that reverse sort took the longest time and partially ordered/sorted array took least time.

Input Array	timer value
reverse	1.112063535
random	0.00987916
partially	0.00409375
sorted	0.00622958

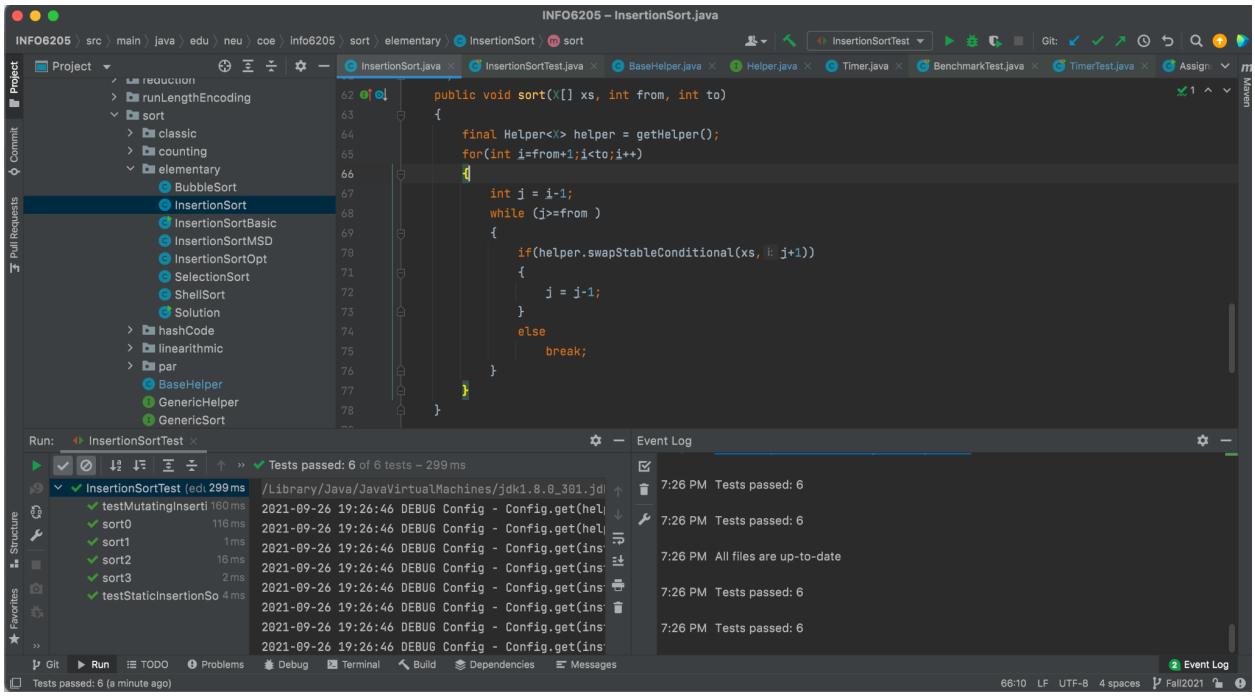




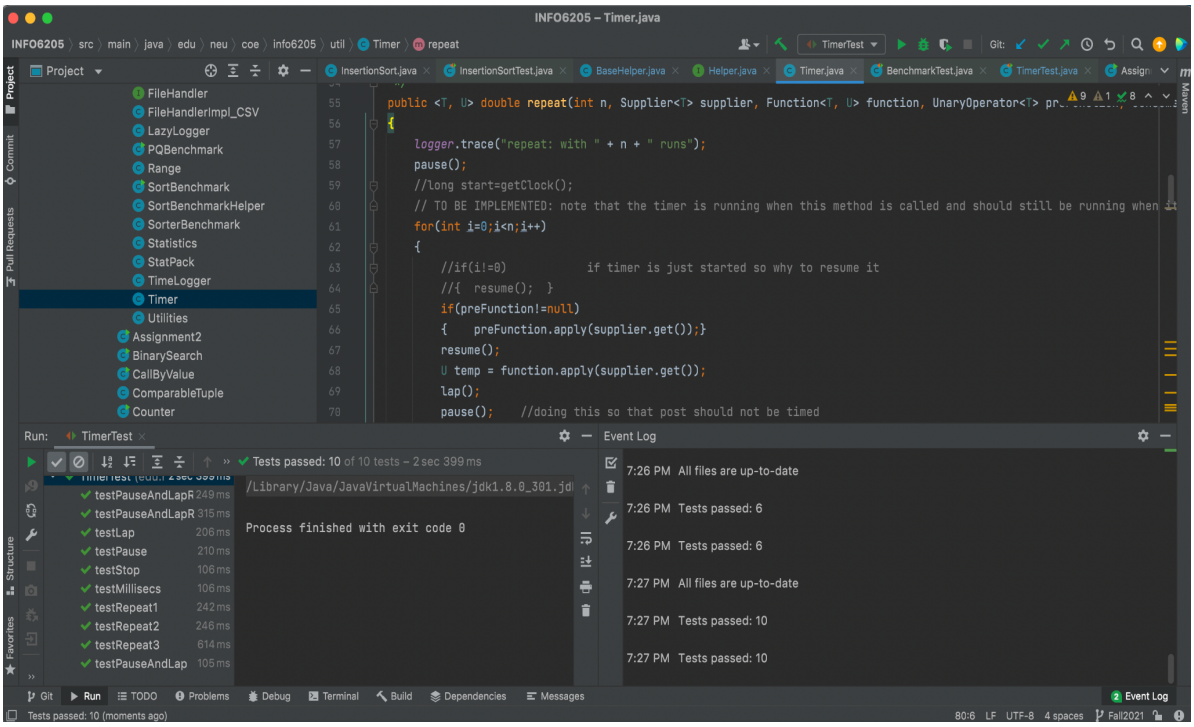
➔ I pushed the commands in the git and attached the link for the repository. https://github.com/Namrata2108/INFO6205/tree/Fall2021/src/main/java/edu/neu/coe/info6205

➔ Below is the screenshot of successful test cases run

- ◆ Insertion Sort Test cases



- Timer Test cases



- Benchmark Test cases