Coding Assignment 0
ESO207 2024-25-I

July 29, 2024

1 Introduction

In this homework you will implement a C program to sort integers from lowest to highest. Please follow the following instructions carefully. Please register yourself in the https://www.gradescope.com/ website with the entry code 'XGVZNB'. Please watch the accompanying youtube video to make yourself comfortable and to submit your code in the gradescope platform: `https://youtu.be/5hCe8iz_hCM`.

The deadline of this homework is Tuesday, August 06, 11 PM IST. Your submissions will not be accepted after this time.

2 Submission Instructions

- You must submit a C program. Other programming languages such as C++, Python, etc. are not allowed. Your code must take the input from "stdin" and write the output to "stdout".
- The input will consists of 2 lines. First line will specify the number of input integers, which we will denote by n. The number of integers will be promised to be at most 50. The next line will consist of n integers each separated by a space. An example is given below; here $n = 5$.

  5
  14 3 19 7 43

  The output will consists of a single line consisting of the sorted list of input integers. Each integer will be followed by a space. Thus the entire line will end with a space. The sample output for the previous input will be:

  3 7 14 19 43

  (Note that there will be a space after 43. That is the end of output. In particular, there is no new line after 43).
- You may use any sorting algorithm of your choice. You will not be particularly graded based on your choice of sorting algorithm. However, your code will be automatically graded in gradescope on some test cases as above which will be hidden from you. Therefore, you must make sure that you understand and precisely follow the expected input-output behavior.
- Please write a single C code and name it as 'sort.c'. This is extremely important. If you violate this, your code will not pass the automatic test cases even if your code runs correctly in your local machine. Common examples of failures include:
  - if you write a C++ program that has the correct input-output behavior
  - if you write two or more different C codes or .h header codes and link them

– or write a single correct code but name it as 'test.c'

In any of the above cases, your code will result in a failure. Thus, while you are perfectly allowed to develop your code in your local machine and it works correctly, your code may run into problem in Gradescope until and unless you follow the above instruction.

- This homework will not have any marks towards your final score. However, you must pass this homework in order to get any marks in the subsequent homeworks. In other words, if you don't get a 100% score on this homework, you will get 0 out of the 7 marks for the coding assignment component in your final grade. Therefore, you must do this homework correctly. This homework is simply to ensure that you are comfortable with the gradescope platform.
- Submit your code on *Gradescope*. Otherwise your code will not be graded. In particular, do NOT submit on hello IITK or over email. Email to us (instructor or the TAs) or start a discussion in helloIITK if you run into any issues.

3 Test Cases

You will be evaluated on several hidden test cases. These test cases will not be revealed to you. For each hidden test case, you need to match the expected output. Then only you are going to get the full marks. So, for example, if there are 5 hidden test cases, and each test case consists of 20 marks, and you get 2 of them right, your score will be 40/100. You will not get to see your score until the deadline is over, we grade your code using autograder, and publish the result.

Additionally, there will be one/two/a few visible test cases to help you. For this particular assignment, there will be two visible test cases. One of them we have already mentioned in the above. The other one is as follows.

Sample Input:

```
5
43 17 12 22 37
```

Sample Output:

```
12 17 22 37 43
```

When you submit your code, it will show whether your code matches the expected output or not, only on the visible test cases. If it matches, you will see a score b/b where b is the marks for this particular test case. If it does not match, you'll see a score $0/b$ and an error message that will show what the expected and your code's outputs were. In the right, it will show your total scores. You can resubmit the code any number of times until the deadline. Only your final submission will be graded.

For this homework, there will be only one hidden test case with a score of 20. Both the visible test cases will have scores 20 as well. You must score 60/60 in total in order to pass this homework and continue with the subsequent homeworks.