

Instructions: This quiz is to be taken in silence, without notes, books, or electronic devices (including “smart” watches or earbuds). The time limit to complete it is **10 minutes**. Answer the following questions, trying to be as clear and as accurate as possible. Take your time to read the statements carefully before trying to answer them. If you need more space, write on the back of your test page and indicate it clearly. When writing code, make sure your special punctuation characters are legible, and your lowercase and uppercase letters are easy to distinguish. As usual, every statement or series of statement is assumed to be in a valid class and method, and you can use the `C.RL()`, `C.W()` and `C.WL()` abbreviations.

____ / 5 pts. **Question 1** Put a checkmark in the box corresponding to true statements.

- ☐ Abstract data types have exactly one implementation.
- ☐ Data structures are generally useful to store and retrieve data.
- ☐ A data type generally comes with allowed operations.
- ☐ In this class, ergonomics will be our main metrics to compare programs.
- ☐ In this class, hardware will be generally ignored.

____ / 5 pts. **Question 2** Rank the following from 1 (“best”, fast to execute, slow to grow) to 5 (“worst”, fast to grow, slow to execute):

____ cubic ____ linear ____ linearithmic ____ logarithmic ____ exponential

____ / 5 pts. **Question 3** Complete the following sentences:

- A quadratic order of magnitude is denoted _____.
- A _____ order of magnitude is denoted $O(c)$.
- A factorial order of magnitude is denoted _____.

____ / 5 pts. **Question 4** Write a code snippet (no need to include **using** statements or `Main` header) that displays the sum of all the values in a `score` `int` array that you can suppose declared and initialized.

____ / 2 pts. **(bonus)** What is the worst case time complexity of the algorithm you wrote, relative to the size n of the array `score`?