

**SI SESSION PLAN**

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| SI Leader: | Alex Iacob | Session Date: | 10/16/22 |
| Week #: | 9 | Session Letter: | A |
| Course & Section: | CSCI 141 Section 7 | Course Instructor: | Steele |
| Planning Date: | 10/16/22 | Planning Time: | 12:50 - 1 |

**Beginning reminders:**

1. Is the room set up in a way conducive to collaborative learning?
2. Is the agenda posted to the board for participants to see?
3. Do you have your attendance sheet up to record your attendance?
4. Do you have any other documents/resources up and ready to go for your session?

If you are all set with the reminders, then go have fun and good luck!

**Main concepts student should feel more comfortable with:**

* Insertion sort
* Merge sort
* Quick sort
* Time complexities

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| **Topics to cover** | **Process to use\*:** | **Time** |
| **Opener:** Birds and announcements | Lab sessions switch starting this week,  Group A goes to lab on Friday and recitation on Wednesday  Group B goes to lab on Wednesday and recitation on Friday | 3-5 |
| Sorting algorithms with cards | Have students split themselves up into groups and perform the sorting algorithms using cards that I dealt out. It is important to know what the algorithms do in each step  Insertion sort:  Pointer starts at beginning of list, checks value to its left, if left value is greater than the current card pointer, swap the cards, repeat this process until list is sorted. It is the slowest sorting algorithm we learn about.  Quick sort:  Pick a pivoting value from the list at random, make 3 new lists of cards, one which holds the values less than the pivoting value, one which holds the values equal to the pivoting value, and one with holds values greater than the pivoting value. Repeat this algorithm for each list until the original list is sorted. This is a pretty good algorithm.  Merge sort:  Split the list into two lists, then split those two lists into two more lists each. Repeat this splitting until there are lists of length two or one. Build the sorted list by | 25 - 30 |
| For each of the sorting algorithms, review the time complexities for each of them | Show them this sheet and talk about how and why each time complexity is as is:  https://docs.google.com/document/d/1VrOw4oJlcVpcyT4ajr\_SFjv4UV9cZc9Wkmf2B2C94\_s/edit | 20 - 25 |
| **Closer:** Dictionary sneak peek | Dictionaries are fast. They run using a key: value pairing, where the key is an immutable object and the value is literally anything. The main reason to use dictionaries is because of this constant time to get any value from it. | Remaining time |

*\*Possible processes: puzzles, informal quiz, think-pair-share, paired problem solving, graphic organizers, cheat sheets, collaborative questioning, student summaries, reviewing notes, work at the board, vocabulary…*

**Ending reminders:**

1. Did you check everyone in?
2. Did you remind everyone of the next session and any upcoming tests or quizzes or due dates?

**What is one thing you want to emphasize during this session?** Please be specific.

* There are many places to get help, if you ever need help, utilize your sources.

**After session thoughts:** How did the session go? Is there anything you would like to keep/drop/change for next time and how?

* I seem to only be getting one person during my Sunday sessions and he breezes through everything faster than I expected.
* Keep: Cards/physical examples. From my own experience, having something tangible to
* Change: My openers this semester have been pretty boring, I have to spice them up more.
* Drop: Nothing to drop in particular, I mainly care about making my sessions better at this point.

**Bi-Weekly Question:** How was your fall break?

* I went to Chicago with a few friends, saw The Bean and ate about a week’s worth of food in a weekend. Deep dish pizza is overrated, NYC pizza is superior.