comp1511 week 4

starting ~5 minutes past the hour

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announcements

- congrats on finishing **assignment 0**!!
- **assignment 1** is now released :D
  - Due 11 July
- **help sessions** now running!

today

- arrays
- functions
- scanf
- [lab time]

arrays
what are they and why do we care?

0	1	2	3	4	5
3	24	7	0	13	63

code demo: arrays.c
writing a while loop that prints out each element of an array

arrays practice (round-robin style)

- ☐ (setup) Create three procedures, named "odd_only", "copy_array", and "largest_character"
- ☐ (odd_only) Create an integer array with at least 5 elements.
- ☐ (odd_only) Create a while loop which loops through every element of the array. You will also need a variable above the while loop.
- ☐ (odd_only) Write an if statment which adds one to variables in the while loop if they are even.
- ☐ (odd_only) Write another while loop which goes through the array *with a different iterator*
- ☐ (odd_only) Print out the values in the updated array.
- ☐ (copy_array) Create an array of doubles with at least 3 elements.
- ☐ (copy_array) Create another double array of 100 elements; but every element initialised to 0.
- ☐ (copy_array) Create a while loop which loops through every element of the first array.
- ☐ (copy_array) Copy the elements of the first array into the second array (leave 0's at the end)
- ☐ (copy_array) Create a while loop which prints out all the elements of the second array.
- ☐ (EXTENSION: largest_character) Create a character array with exactly 8 elements.
- ☐ (EXTENSION: largest_character) Create a character variable called "largest character", equal to the first character of the array.
- ☐ (EXTENSION: largest_character) Create a while loop to loop through the character array.
- ☐ (EXTENSION: largest_character) Create an if statement to check if the current character has a higher ascii value than "largest_character"
- ☐ (EXTENSION: largest_character) Print out the largest character you've found.
- ☐ (EXTENSION: largest_character) Ensure your code would pass "1511 style"
- ☐ (EXTENSION: largest_character) Go join other teams, and sit with their groups to help them finish.

how this works

we want to write three procedures :)

rotate between people for each task / checkbox **(!!)**

functions as a concept


```
1  int get_larger(int first_num, int second_num) {
2      int larger = first_num;
3      if (second_num > first_num) {
4          larger = second_num;
5      }
6
7      return larger;
8  }
```

functions as a concept


```
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```

writing functions for colour.c

colours.c

- struct definition (colour)
- enum definition (main colour)
- example of a function

writing new functions in parts

https://play.kahoot.it/v2/?quizId=2941904b-a8ac-4e23-8877-e5735996aa3e

scanning into arrays

We want to scan velocities into an array until the user hits CTRL-D and then take the average of the last five values.

For this exercise, the maximum size of the array is 256.

Hint: scanf is a function which returns the number of elements successfully scanned in!

other things to talk about

- **assignment 1**: cs_hotel
  - live stream sometime this week
  - start early - do stage 1.1 this week
- **overview of lab exercises for this week**
  - they help with the assignment