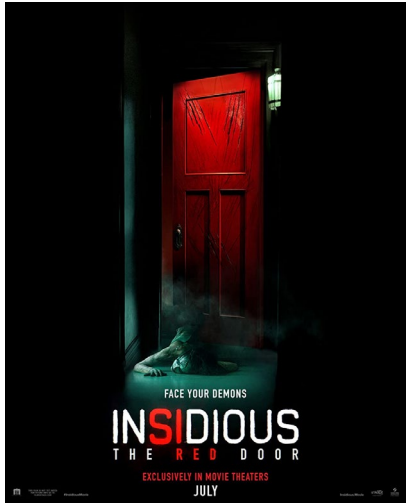


Movie of the Year (forecast)





COMP1511 Week 4!

T14A: 2pm – 5pm

Tutors: Me + Vivian Zheng



My GitHub:



<https://shorturl.at/zMTX5>



EdStem Lessons:



<https://shorturl.at/krtG9>



Please remember Census Date!



<https://shorturl.at/etE45>



The Agenda

Arrays Practice (20 mins)

What are these? Have you heard these names before?

```
int array[3] = { 1, 2, 3 };  
double list[3] = { 1.0, 2.0, 3.0 };  
char collection[3] = { 'a', 'b', 'c' };
```

Looped Scans Part 1 (15 mins)

In 4 groups still, let's tackle some scanning...

- Problem:
Scan temperatures into an array for 7 days. Find the highest temperature.
- What steps could you take?
 - Initialise an array
 - **while** loop using **scanf**
 - Write to the array
 - Loop through array & track largest value
- Write some pseudocode / draw a flowchart!

Looped Scans Part 2 (10 mins)

Before diving into more looped **scanf**, let's cover input



Functions Practice (15 mins)

First, check out this struct!

```
8 struct colour {  
9     int red;  
10    int green;  
11    int blue;  
12 };
```

What are these? Have you heard these names before?

```
int array[3] = { 1, 2, 3 };  
double list[3] = { 1.0, 2.0, 3.0 };  
char collection[3] = { 'a', 'b', 'c' };
```

In groups, fill in the blanks to print every array element

```
1  int array[3] = { 1, 2, 3 };
2
3  int i = 0;
4  while (i <     ) {
5      printf("%    ",                 );
6      i++;
7  }
8
```

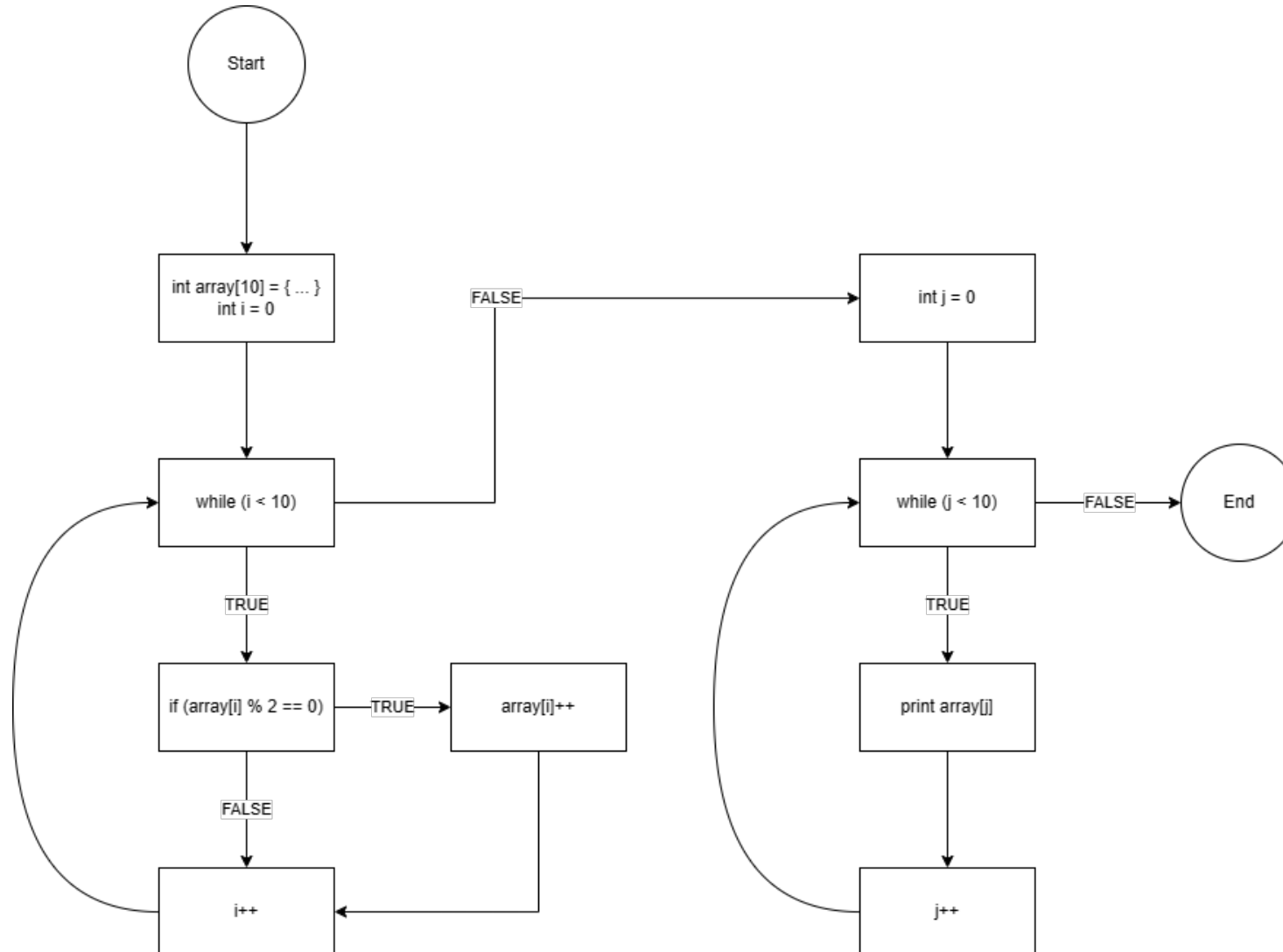

Did you get them all?

```
1  int array[3] = { 1, 2, 3 };
2
3  int i = 0;
4  while (i < 3) {
5      printf("%d", array[i]);
6      i++;
7  }
8
```

Let's try out the 'Odd Only' task first

1. Create an integer array with at least 5 elements
2. Create a **while** loop which loops through every element of the array.
3. Write an **if** statement which adds 1 to each even value. Do this within the **while** loop.
4. Write another **while** loop which goes through the array *with a different iterator* (i.e. if you used **i** last time, use **j**)
5. Print out the values in the array.

Let's try out the 'Odd Only' task first



Let's try out the 'Odd Only' task first

Copy Array

1. Create an array of **doubles** with 3 elements, each with a non-zero value.
2. Create another array of **doubles** with 10 elements where every element initialised to **0.0**.
3. Create a **while** loop that loops through every element of the first array.
4. Copy the elements of the first array into the second array (leave 0's at the end)
5. Create a **while** loop that prints out all the elements of the second array.
6. Go join other teams, and sit with their groups to help them finish.

Largest Character

1. Create a **char** array with exactly 8 elements.
2. Create a **char** variable called **largest_character**, equal to the first character of the array.
3. Create a **while** loop to loop through the **character** array.
4. Create an **if** statement to check if the current character has a higher ASCII value than **largest_character**
5. Print out the largest character you've found.
6. Ensure your code would pass the **1511 style** command
7. Go join other teams, and sit with their groups to help them finish.



In 4 groups still, let's tackle some scanning...

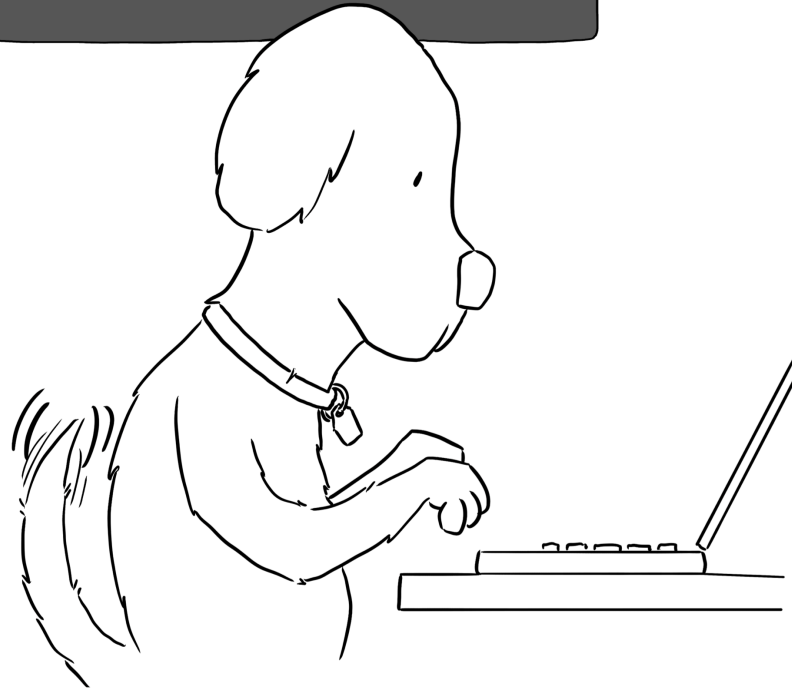
- Problem:
Scan temperatures into an array for 7 days. Find the highest temperature.
- What steps could you take?
 - Initialise an array
 - **while** loop using **scanf**
 - Write to the array
 - Loop through array & track largest value
- Write some pseudocode / draw a flowchart!



Before diving into more looped scanf, let's cover input

NOISE TO SIGNAL RobCottingham.com
@robcottingham

```
Terminal  
me: $ whois AGoodDog  
You are! You are!
```





Before diving into more looped scanf, let's cover input

NOISE TO SIGNAL RobCottingham.com
@robcottingham

```
Terminal  
~: $ whois AGoodDog  
You are! You are!
```

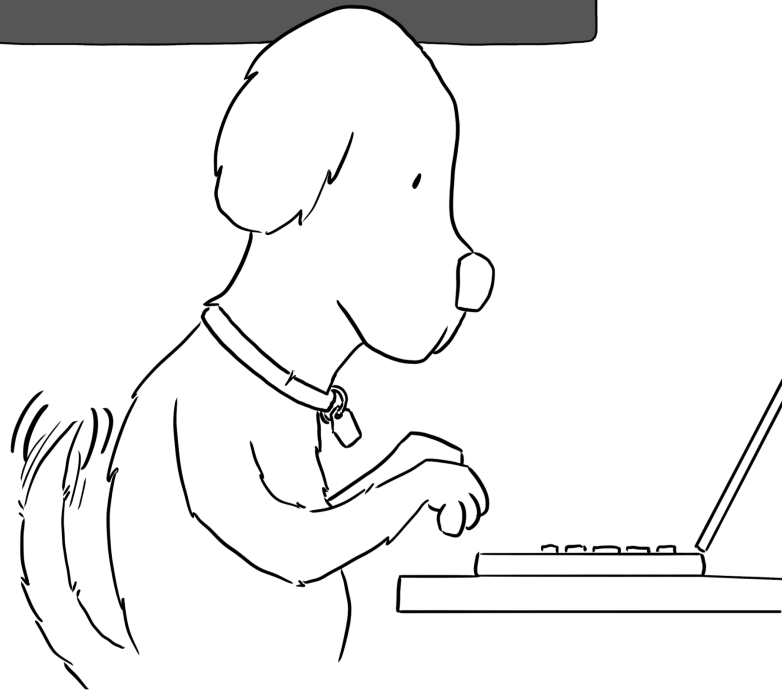
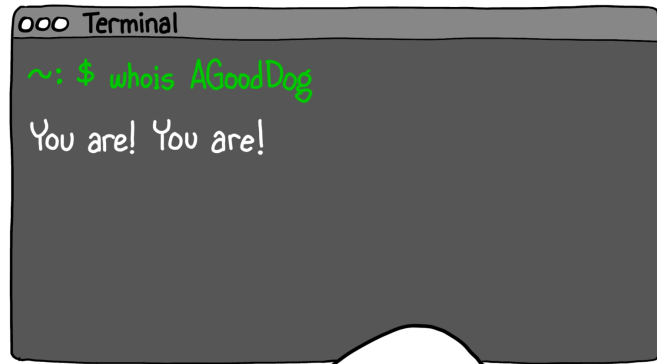


Input
"comp1511"

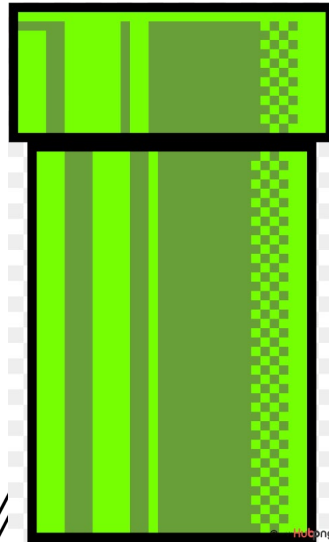


Before diving into more looped scanf, let's cover input

NOISE TO SIGNAL RobCottingham.com
@robcottingham



Input Buffer



Input

'c' → 'o' → 'm' → 'p' → '1' → '5' → '1' → '1'





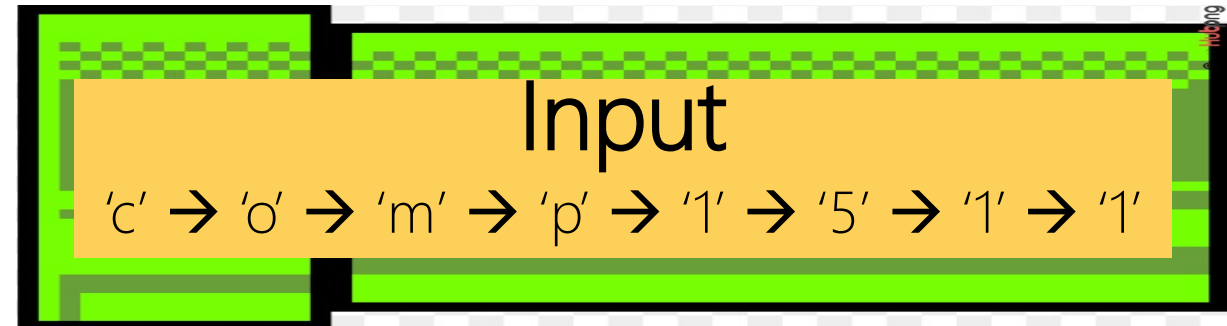
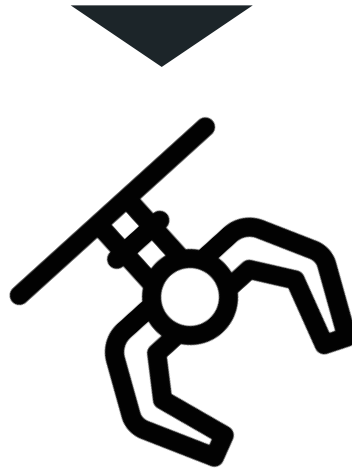
Before diving into more looped scanf, let's cover input

NOISE TO SIGNAL RobCottingham.com
@robcottingham

```
Terminal  
me: $ whois AGoodDog  
You are! You are!
```



scanf



First, check out this struct!

```
8      struct colour {  
9          |      int red;  
10         |      int green;  
11         |      int blue;  
12         };
```

Second, check out this function!

```
8      struct colour {  
9          int red;  
10         int green;  
11         int blue;  
12     };
```

```
19     struct colour make_colour(int red, int green, int blue) {  
20         struct colour new_colour;  
21  
22         new_colour.red = red;  
23         new_colour.green = green;  
24         new_colour.blue = blue;  
25  
26         return new_colour;  
27     }
```



Third...let's Kahoot!

Kahoot!