



COMP1511

Tutorial 5

2D arrays | Pointers | malloc

2D Arrays





Tic Tac Toe

We'll be writing a function to determine whether a player has won a game of tic tac toe

What are the main steps we'll need to plan out to check whether a player has won?

In groups, give suggestions on code to write this function as we work through it

Pointers



Pointers and Memory

0xFF80	name: ? type: ? value: ?
0xFF84	name: n type: int value: ?
0xFF88	name: p type: int * value: ?
0xFF8C	name: q type: int * value: ?

```
1 int n = 42;
2 int *p;
3 int *q;
4 p = &n;
5 *p = 5;
6 *q = 17;
7 q = p;
8 *q = 8;
```

malloc and free





malloc, free and realloc

Write a function *dynamic_memory* which take an integer *size*

Create a dynamic array of integers that is *size* integers long

Set all integers in this array to *0*

Resize the array to be twice as long

Set all the new integers (added when array was resized) to *1*

Free the array