comp1511 week 07

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- congrats on finishing **assignment 1!**
- what did we learn?

agenda for today

- intro to pointers
- using pointers in functions
- struct pointers
- malloc and arrays
- eof loops

pointers demo (see pointers.c)

pointers example

Fill in the values of each variable in the below visual at each point in the code execution.

Address	Variable
0xFF80	Type: ??? Name: ??? Value: value
0xFF84	Type: int Name: n Value: value
0xFF88	Type: int * Name: p Value: value
0xFF8C	Type: int * Name: q Value: value
0xFF90	Type: ??? Name: ??? Value: value

Note: Address lengths have been reduced for brevity.

```
01: int n = 42;
02: int *p;
03: int *q;
04: p = &n;
05: *p = 5;
06: *q = 17;
07: q = p;
08: *q = 8;
```

Next Instruction

https://cgi.cse.unsw.edu.au/~cs1511/23T3/tut/07/questions

using pointers in functions (see pointers_in_func.c)

struct pointers (see struct_ptrs.c)

EOF loops

We'll be using this starter code:

```c
#include <stdio.h>

#define MAX_LETTERS 100

int main (void) {

    char my_var;
    while (scanf(" %c", &my_var) == 1) {
        printf("Input: %c\n", my_var);
    }

    return 0;
}
```

EOF loops

how can we read input line by line until EOF?

- we can use fgets!
- fgets(<name of array>, <size of array>, stdin)
- fgets returns NULL when CTRL+D is pressed

command line arguments (see command_args.c)

We'll be using this starter code:

```c
#include <stdio.h>

int main(int argc, char *argv[]) {

    return 0;
}
```

any questions?