



COMP1511

Tutorial 7

strings | fgets | struct pointers

Strings Recap





Strings Basics

- Strings are used to represent text
- They are arrays of chars ending with a null terminator (`'\0'`)
- All string functions use the `'\0'` to tell when the string ends

```
char string[] = "Hello";
```

```
char string[] = {'H', 'e', 'l', 'l', 'o'};
```

0	1	2	3	4	5
'H'	'e'	'l'	'l'	'o'	'\0'

String Functions



```
// Returns : 1 if `c` is a lowercase letter
//           : 0 otherwise.
int is_lowercase(char c);

// Returns : 1 if `c` is an uppercase letter
//           : 0 otherwise.
int is_uppercase(char c);

// Returns : 1 if `c` is a letter
//           : 0 otherwise.
int is_letter(char c);

// Returns : `c` converted to lowercase, if
//           it was an uppercase letter
//           : `c` unmodified, otherwise
char to_lowercase(char c);

// Returns : `c` converted to uppercase, if
//           it was a lowercase letter
//           : `c` unmodified, otherwise
char to_uppercase(char c);

// Returns : 1 if `c` is an uppercase or
//           lowercase vowel
//           : 0 otherwise.
int is_vowel(char c);
```

```
// Functions to implement:

// 1.
// returns the number of lowercase letters
// in `char *string`
int count_lowercase(char *string) {
    return 0;
}

// 2.
// modifies `char *string` by converting
// all its vowels to uppercase
void make_vowels_uppercase(char *string) {
}

// 3..
// shortens a string so that it ends after
// the first word
// e.g. "This is a sentence" should turn into:
//      "This"
//
// (hint. what defines when a string ends?)
void delete_following_words(char *string) {
}

}
```

fgets





fgets

```
char *fgets(char *str, int size, FILE *stream);
```

Scans in a whole string of length `size-1` into string `str`

We usually scan in from standard input, so the `stream` is `stdin`

Scans in until a newline is read (it will scan in the newline as well)

struct pointers





struct pointers

When might we want to use struct pointers instead of structs?

When do we use “.” to access a struct field?

When do we use “->”?