

# ECE220

## Assignment 2

due Wednesday, March 18<sup>th</sup> 2020, 11:55 PM  
(this assignment is worth 3% of the final mark)

There are two programs to be written. Each program is worth 5 pts. The program should be written using the website: <https://www.onlinegdb.com>. Both C files (only files with the extension .c) should be uploaded on eClass.

1. Write a program that reads the content of the file (`test.txt` provided on eClass), one line at a time, examines it and prints the following information:
  - number of read statements
  - ID of the shortest statement (ID indicates ordinal number of read lines, starts with 0)
  - ID of the longest statement (ID indicates ordinal number of read lines, starts with 0)
  - the shortest statement: its size and content
  - the longest statement: its size and content

The program output's format should be (the values are random):

```
*** Number of read statements: 10
*** ID of the shortest statement: 9
*** ID of the longest statement: 0

SHORTEST: length = 12; statement = ...
LONGEST: length = 26; statement = ...
```

2. Write a program that performs the same task as the program above, but with the following additional requirements:
  - it should be able to read files with any number of statements
  - it should write all statements into a file: `test_reverse.txt` in the reverse order each statement into a single (next) line
  - it should use dynamic memory allocation (PLEASE, use provided `memory.c` and `memory.h`) to store read lines in memory of size that is needed (without any unused memory)

### Grading Schema:

If everything is correct:	5 pts
If a program does not compile/serious error:	- 3 pts
If wrong answer is provided:	-1/-2 pts