

COMP10120 Practical Set 7: The C Pre-processor and Variable Length Argument Lists

Please read the questions carefully. Name each program based on your student number, the practical set number and question number. For this set (set7), question 1 should be named 1234567s7q1.c where your student number replaces 1234567. All questions that you are submitting can be zipped into a single file called 1234567s7.zip, where 1234567 is your student number and s7 refers to set 7. Please also include a readme.txt file which says which compiler you used to test your implementation. This zipped file can be submitted via Moodle for grading.

1. Write a C Program that **defines and uses a macro** which calculates the minimum of 2 integers. Extend this program with another macro to calculate the minimum of 4 integers. This extended program **must** reuse the macro which calculates the minimum of 2 integers. Submit the extended program. The two programs should get the input from the command line as the program is run. See *lecture notes*.
2. Write a C Program that **defines and uses 2 macros**; one macro should print the elements of an integer array and the other macro should print the elements in reverse order. The array can be defined in the program as follows:

```
int myArray[5] = {1, 4, 8, 16, 32};
```

3. Consider the 12 *words* below. Write a C Program which has functions to do the following:
 - Jumble the order of words
 - Print the words
 - Select a random word

"COMP10120" "is" "my" "favourite" "module" "and" "I" "learn" "lots" "of" "interesting" "things"

NOTE: The program **must demonstrate** the use an array of pointers.

4. Write a C program which has the following functions:
 - a. A function called *adder* which has variable number of integers as arguments and returns the sum of the integers
 - b. A function called *multiplier* which has variable number of integers as arguments and returns the product of the integers
 - c. A function *myPrinter* which takes in a variable number of arguments of any type and prints each one a separate line.