

Exercises Part 3

Ex. 19

Two variants of macro `DEBUGMSG` that takes variable number of parameters.

If macro `DEBUG` is defined then `DEBUGMSG` expands to `printf`.

If macro `DEBUG` is not defined then `DEBUGMSG` expands to empty statement.

Write a main function which asks user to enter five integers. Print loop variable on each round with `DEBUG`-macro.

Test with both debug and release builds with MCUXpresso. Debug build has `DEBUG` defined automatically, release build does not.

Ex. 20

Write a password generator function that takes three parameters: character pointer (array), integer (array size), array of const char pointers (array of words).

The function generates password and stores it in the array. The password must contain a randomly selected word from the array of words at a random location and the rest of the password contains random printable characters. Hint: fill the password first with random characters and then copy random word.

Write a program that generates 3 random passwords from an array of ten words.

Ex. 21

Write a program that asks user to enter name of a file. The program opens the file in binary mode and calculates frequency of all characters [0-255] and prints a list of ten most frequent characters and their frequencies.