EECS 2032

Lab 9
Fall 2020

In this lab, you will learn how to deal with structs and files

Problem 1

Write a C program that displays a histogram. The program will create a histogram with a number of bins defined by the user (input). The user will also specify the range of each bin. The range for every bin should be the same.
For example, if the user specified the number of bins to be 5 4, and the size of the bins to be 4 5

In this case the 6 4 bins will be
[0 → 4]   [5 → 9]   [10 → 14] [5 → 19].
Assuming your input is "5 3 8 14 14 6 13 12"
The output should be

[0 : 4] : 1
[5 : 9] : 3
[10: 14] : 4
[15 : 19] : 0

Input:
Your program should prompt the user to enter the bin size as such
Please enter the bin size:
The user enters the bin size
Your program should prompt the user
What is the number of bins
The user enters the number of bins

Your output should be displayed with each bin on a separate line.
The format of the line is as follows

- Square bracket
- An integer in 3 digits, followed by colon (no spaces) then an integer in 3 digits,.
- followed by closing square bracket
- followed by a colon,
- then an integer in three digits.

Submit as lab9_1.c to LAB9

Problem 2

Modify part 1 such that the user enters the number of bins and the maximum value. The maximum value is the maximum data value that will be displayed in thw histogram. Your program should decide on the range and size of every bins (all bins have the same size).
For example, if the user specified the maximum number to be 14, and the number of bins to be 6 (note that the data could be anything between 0 and 14, that is a 15 possible values.
In thais case the 6 bins will be
[0 → 2]   [3 → 5]   [6 → 8]   [9 → 11]   [12 → 14]   [15 → 17].

Submit **Lab9_1.c to LAB9**

Problem 3

- Watch the two videos I posted on eclass
- Install MCUXpresso on your machine with the board support

No submission