

HW12

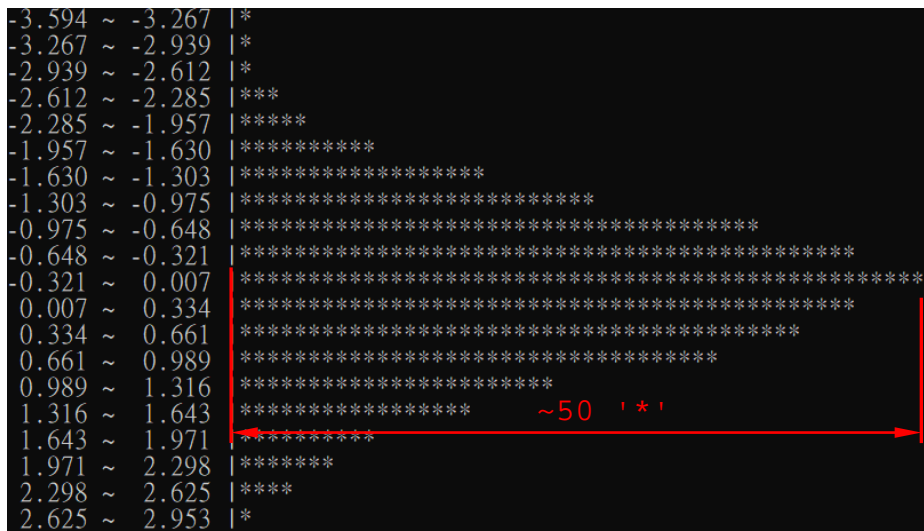
作業繳交方式：上傳 **iLearning3**

※本作業只要上傳檔案 **Q1.c**

1. (100%) Program Q1.c

Write a C program to read data from a file `data.txt` and print the histogram

- File format of `data.txt`: The first row is the number of data items `n` (integer), and the rest are `n` rows of floating point numbers. Assuming that the data is completely correct and no need for error checking.
- Allocate an array of size `n` and read data from `data.txt`.
- Write a function of the prototype as shown to find the maximum of these `n` values.
`double FindMaxVal(double *, int);`
- Write a function of the prototype as shown to find the minimum these `n` values
`double FindMinVal(double *, int);`
- Call the above function to find the maximum `MaxVal` and minimum `MinVal` of these `n` values
- Divide the values between `MinVal` and `MaxVal` into 20 intervals.
- Calculate the frequency of occurrence of these `n` data in these 20 intervals.
- Print numerical range and the histogram. The result will be similar to the following image.
(the maximum length of ' * ' is about 50)



```
-3.594 ~ -3.267 | *
-3.267 ~ -2.939 | *
-2.939 ~ -2.612 | *
-2.612 ~ -2.285 | ***
-2.285 ~ -1.957 | *****
-1.957 ~ -1.630 | *****
-1.630 ~ -1.303 | *****
-1.303 ~ -0.975 | *****
-0.975 ~ -0.648 | *****
-0.648 ~ -0.321 | *****
-0.321 ~ 0.007 | *****
0.007 ~ 0.334 | *****
0.334 ~ 0.661 | *****
0.661 ~ 0.989 | *****
0.989 ~ 1.316 | *****
1.316 ~ 1.643 | *****
1.643 ~ 1.971 | *****
1.971 ~ 2.298 | *****
2.298 ~ 2.625 | *****
2.625 ~ 2.953 | *
```