Module 4

Group Exercise 2

due Friday, 17 September, 2021 at 11:59 pm

Problem 1 [5 points] You will be asked to produce plots of your results for all of the assignments in this class. In this exercise you'll practice the basics of producing and displaying graphs in the language of your choice.

The plots that you will produce for this exercise will be made using data in the file `data.txt` attached to the Group Exercise 2 assignment page in Canvas. The file contains:

- Line 1: the data for point 1 separated by spaces – (x y_1 y_2)
- Line 2: the data for point 2
- ...
- Line N: the data for point N, where
  - x = the x value of the data point
  - y_1 = the y value of data point for function 1
  - y_2 = the y value of data point for function 2

Please produce two graphs using this data, one with a *linear-scale* y-axis and one with a *log-scale* y-axis. Each graph should contain plots of function 1 and 2 overlaid on each other as shown in the example figure below.

Your group should submit to Canvas:

1. PDF or PNG files of your two plots
2. The source file used to make the plots (with names of group members in the header comments)

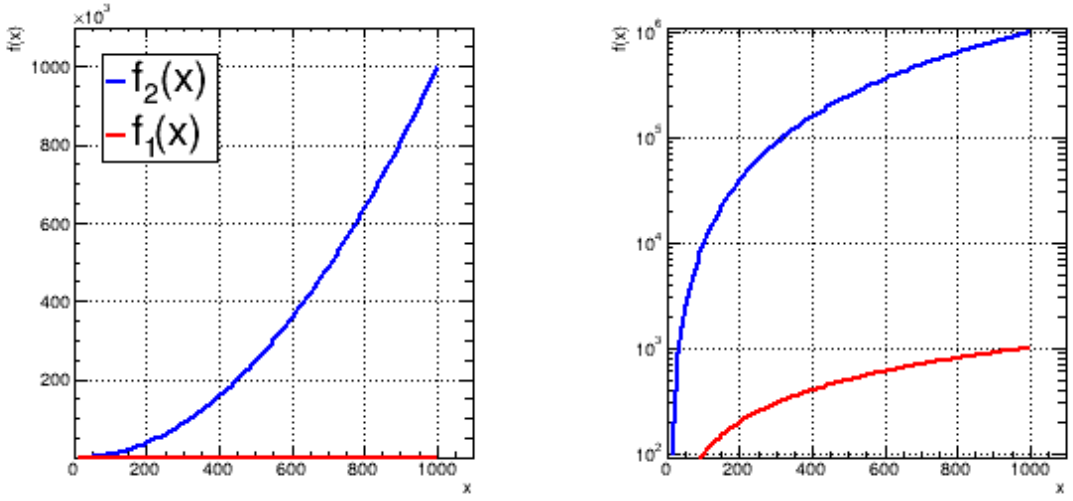

Figure 4.1: Example output plots for this exercise.

If your group intends to use ROOT as your plotting software, you can find some example code in `$CPCODE/examples/03_Numerics/Numerics/QuadSolve.C`. For those of you using Python, the Pyplot Tutorial from matplotlib might be helpful.