Module 6

Group Exercise 4

due Friday, 5 November, 2021 at 11:59 pm

Problem 1 [5 points] Write a program to generate double-precision pseudo-random numbers in the range $[-1, +1]$ using a PRNG available in your programming language. Seed the program with the system clock time such that you'll get a different seed each time you run. You'll need to find the appropriate function to get this system time for your language and will need to convert it into a format that works as a seed for your PRNG. Check that your code produces a different seed each time you run it.

Use your program to generate 10,000 random numbers and make a histogram of the results showing that the distribution of the numbers is statistically flat in the range.

Your group should submit to Canvas:

1. a text file with a brief description the algorithm that your PRNG uses (you don't have to go into details, but do mention the type of PRNG used and some of its important parameters)
2. a PDF or PNG file of your histogram
3. The source file(s) used to generate the numbers and make the histogram (with names of group members in the header comments)