

Assignment 1a. Random Numbers

Marks 10

Posted on 13.08.2025 @ 2:30 pm and due on 13.08.2025 @ 5:45 pm

1. Use the iterative equation $x_{i+1} = cx_i(1 - x_i)$ to generate 10,000 random numbers. Show the correlation among them by plotting x_i vs x_{i+k} . Use seed $x_0 = 0.1$ but choose your own five different c . Try various k , say 5, 10, 15, 20 etc. [5]
2. Write your own LCG random generator with the following set of parameters $a = 1103515245$, $c = 12345$, $m = 32768$ and again check for correlation by plotting for $k = 5$. You must store your LCG code in the library file for all future use till Endsem. [5]