Birzeit University

Department of Electrical & Computer Engineering

First Semester, 2020/2021

Linux Lab

ToDo#3

Suppose we want to roll a single die 10 times and then compute experimentally the probability that the sequence of rolls is non-decreasing (e.g., the next roll is never less than the current roll). For example, the sequence {1, 2, 2, 2, 3, 4, 5, 5, 5, 6} is a non-decreasing sequence. To do that we need to do a large number of trials (e.g. 1,000 trial) so as to get an accurate probability number. Write a C-code for the above described problem.

Procedure:

- The program first ask user to enter the number of trails (e.g. 1,000)
- For each trail, the program must generate a random number between 1 – 6. Hint: You need to use the functions rand() and srand().
- Check non-decreasing trails.
- Print the number of non-decreasing trails and also the probability of getting non-decreasing trails.

Notes:

- Write the code for the problem described above and name the executable file as Generator.
- Make sure your code is clear and clean, comments inserted wherever necessary to add clarity, variables have meaningful names, etc.
- Create two functions (the first one will generate the trails and check non-decreasing property; the second function will print number of non-decreasing trails also the probability of getting non-decreasing trails) and each function must be located in separated C-file.
- Make sure the C-files and the header files have enough comments.
- Create a makefile that will help you compile the application.