DSC 430: Python Programming
Assignment 0701: War and Random Numbers

Find on the D2L a text version of War and Peace by Leo Tolstoy. You will use it create a pseudo random number generator. The PRNG should be an object:

```
prng = WarAndPeacePseudoRandomNumberGenerator()
```

Alternatively, you should be able to pass a seed when you create the object:

```
prng = WarAndPeacePseudoRandomNumberGenerator(12345)
```

Then, you should be able to generate pseudo random numbers [0,1):

```
r = prng.random()
```

Details of the scheme are explained in the PPT **"DSC430_07_05_MonteCarlo_WarAndPeacePRNG.pptx"** and its accompanying video **"Monte Carlo Assignment Companion Video"**.

Ensure to provide a sufficient amount of documentation/comments in the code. Also write answers to these in a comment section at the end of the code file:

- Explain how your pseudo random numbers are produced.

[5/13 new]
- Generate **10,000** pseudo random numbers for **each of the following settings** and report the min, max, and mean. Also discuss if/how the results make sense.
    - <u>Test 1</u>: seed = 0, step = 100
    - <u>Test 2</u>: seed = 1,000, step = 1,000
    - <u>Test 3</u>: seed = 2,000, step = 10,000
    - <u>Test 4</u>: average of the **4** runs of seed = 2,000, step = 1,000

Submission: Submit the source file (.ipynb) and the exported html file (.html) to the D2L. Do not zip or archive the file. Your code must include comments at the top including your name, assignment number, and the honor statement, "I have not given or received any unauthorized assistance on this assignment." Also, each function must include a docstring.