

Review Form 3

Journal Name:	Journal of Advances in Mathematics and Computer Science
Manuscript Number:	Ms_JAMCS_130822
Title of the Manuscript:	Performance Analysis of Linear Congruential Generator Pseudo Random Generators using Python and Java Languages
Type of the Article	Original Research Article

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PART 1: Comments

	Reviewer's comment	Author's Feedback <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.	This manuscript addresses a relevant topic within computational research—pseudo-random number generation (PRNG)—by comparing the performance of Linear Congruential Generator (LCG) algorithms implemented in Python and Java. Given the growing reliance on PRNGs in areas like cryptography, simulations, and statistical modeling, the study's focus on seeding methods and language-specific performance is timely. Additionally, the manuscript provides a practical perspective for developers choosing programming languages for PRNG implementations in resource-critical applications like IoT and AI. It adds value by presenting experimental data on execution times and asymptotic behavior ranges, offering insights for real-world performance optimization.	The reviewer has appreciated the work, hence no indication to make changes.
Is the title of the article suitable? (If not please suggest an alternative title)	The title is somewhat descriptive but could be made more precise. It currently implies a broader scope than the manuscript covers. A suggested alternative title is: "Performance Analysis of Linear Congruential Generator Algorithms with Different Seeding Techniques in Python and Java."	I agree to make this change in title. "Performance Analysis of Linear Congruential Random Generator Algorithms using Python and Java Languages" "Performance Analysis of Linear Congruential Random Generator Algorithms using Python and Java Languages"

PART 1: Comments

	Reviewer's comment
Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.	This manuscript addresses a relevant topic within computational research on pseudorandom number generation (PRNG)—by comparing the performance of Linear Congruential Generator (LCG) algorithms implemented in Python and Java. Given the growing reliance on PRNGs in cryptography, simulations, and statistical modeling, the study's focus on language-specific performance is timely. Additionally, the manuscript provides practical guidance for developers choosing programming languages for PRNG implementation in applications like IoT and AI. It adds value by presenting experimental results across different system configurations and asymptotic behavior ranges, offering insights for real-world performance optimization.
Is the title of the article suitable? (If not please suggest an alternative title)	The title is somewhat descriptive but could be made more precise. It covers more than the manuscript covers. A suggested alternative title is: "Performance Analysis of Linear Congruential Generator Algorithms: Comparing Python and Java Techniques in Python and Java."

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Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.	<p>The abstract provides a good overview of the study, but it is not comprehensive enough. It fails to mention the key results, the significance of the findings, and the specific contributions of the research. Here are the suggested additions:</p> <ul style="list-style-type: none">Summarize the key results (e.g., which seeding method performed better, any notable language-specific differences).Include a sentence on the implications of the findings for real-world applications.Clarify the focus on asymptotic performance analysis. <ul style="list-style-type: none">Consider this revised version: <i>"In this study, we analyze the performance of Linear Congruential Generator (LCG) pseudo-random number generators (PRNGs) implemented in Python and Java using three seeding techniques: manual, system time, and hash/object-based. Our results show that system-time seeding offers the best trade-off between speed and randomness, with Java outperforming Python in execution times. These findings provide practical guidance for developers in selecting appropriate PRNG implementations for applications in IoT, AI, and statistical modeling."</i>	I have applied the revised version as specified by by the reviewer in my paper.
Is the manuscript scientifically, correct? Please write here.	<p>The manuscript is generally scientifically accurate, as it explains the theoretical underpinnings of LCGs, provides clear implementation details, and supports the claims with experimental data. However, some observations could be improved:</p> <ul style="list-style-type: none">The analysis should explicitly discuss the clustering and repetition issues observed in the PRNs, as these are critical for assessing randomness quality.	I shall do this and shall be highlighted.
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.	<p>The references are sufficient and relevant, but more recent works on advanced PRNG algorithms, such as PCG and ISAAC, could enrich the context. Suggestions include:</p> <ul style="list-style-type: none">Melissa O'Neill's work on PCG (Permuted Congruential Generator).More recent papers on cryptographically secure PRNGs if cryptographic contexts are to be included.	I have plan for this in my next paper. I feel some feedbacks are out our scope as our objective is analysis of algorithm not much on enriching.
Is the language/English quality of the article suitable for scholarly communications?	good	
Optional/General comments	<p>The manuscript lacks a detailed discussion of the limitations and potential improvements for LCG algorithms. Including a brief comparison with modern PRNGs (e.g., Mersenne Twister or PCG) would strengthen its value.</p> <p>The tables and graphs provided are clear, but incorporating additional visualization (e.g., histograms for randomness distribution) would enhance the presentation.</p> <p>The conclusion could be expanded to discuss how the findings could influence future research in PRNG performance optimization or adoption in specific domains like AI and IoT.</p>	

PART 2:

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Are there ethical issues in this manuscript?	(If yes, Kindly please write down the ethical issues here in details)	