

Review Form2

Book Name:	Mathematics and Computer Science: Contemporary Developments
Manuscript Number:	Ms_BPR_2500
Title of the Manuscript:	Python Based Modelling of Logic Gates
Type of the Article	Book Chapter

PART 1: Review Comments

Compulsory REVISION comments	Reviewer's comment	Author's Feedback(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimumof 3-4 sentences may be required for this part.	This work shows a way to represent logic gates and to build circuits with them. This represents an option for the scientific community that needs to experiment with circuits based on logic gates. Although I consider the contribution shown acceptable, I feel the work is incomplete. Examples of well-known circuits such as half adders, should be given, and other forms of representation should be done, such as the use of classes in Python (class AndGate, class orGate, etc.) I think it would also be of great value to the scientific community to compare their proposal with other programming languages (see comparison table with example source code made in C, Java and Prolog)	
Is the title of the article suitable? (If not please suggest an alternative title)	In other languages such as Prolog, C, C++, etc. logic gates can be modeled, so I would modify the title to: "Modeling Logic Gates in Python", however, if more examples of more complex circuits were shown and more helpful template classes were created for their construction, I would leave the current title. If well-known example circuits were built, the title might be more appealing to the reader, such as: "Building Logic Gate Circuits in Python"	
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.	I would change this part of the text “three separate numerical problems” for this “Three circuits are built to exemplify the above, using the functions defined in Python for the logic gates” and I would change too “Consequently, the created functions demonstrated excellent precision with minimal effort and errors in every instance” for this: “The circuits were tested with different inputs obtaining the expected outputs”. I would add the word "circuits" to the list of keywords.	
Are subsections and structure of the manuscript appropriate?	The document only has sections and is presented as a scientific report. I would put a background and/or justification section and more.	
Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimumof 3-4 sentences may be required for this part.	The document only has sections and is presented as a scientific report. There should be a section stating what the objective is, a justification section , whether there is a problem that this proposal helps with, a section comparing the same solution solved in other programming languages, and a discussion section on the advantages and disadvantages that exist between solutions made in different programming languages.As a scientific document, it needs to be cited, for example, in page 2: “The AND gate is a crucial component in digital logic [cite]”, a cite is required, who said that?	

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Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.	The bibliography is recent, more references on books about circuits and logic gates could be added, but I consider these are enough. However, I would look for more bibliography related to the programming of logic gates in Matlab, C, Java, Fortran, etc. • Borowik, B., Karpinskyy, M., Lahno, V., Petrov, O., Borowik, B., Karpinskyy, M., ... & Petrov, O. (2013). Basic Logical Functions and Gates. Logic Design. Theory of Digital Automata, 51-73. • Popov, V. S. (2023, March). Equivalence of logical operations and other operations in python programming language. In <i>2023 5th International Youth Conference on Radio Electronics, Electrical and Power Engineering (REEPE)</i> (Vol. 5, pp. 1-6). IEEE. • Herniter, M., Scott, D., &Pangasa, R. (2001, June). Teaching programming skills with MATLAB. In <i>2001 Annual Conference</i> (pp. 6-954).	
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Minor REVISION comments	In general terms I think English is adequate. Only one mistake was found on the first page in the last paragraph the word “Modeling”, the correct form is “Modelling”. There are extra spaces between words and before a comma.			
Is the language/English quality of the article suitable for scholarly communications?				
Optional/General comments	My recommendation to improve this work is to add more examples of known circuits, change the title emphasizing its contribution to help build circuits using logic gates and make a comparison of the advantages and disadvantages of using Python compared to other programming languages.			
	Comparison table among distinct Programming Languages			
	Prolog	C	Java	Phyton option 2
	and(0,0,0). and(0,1,0). and(1,0,0). and(1,1,0). or(0,0,0). or(0,1,1). or(1,0,1). or(1,1,1). not(0,1). not(1,0). circuit(IA,IB,OC):- and(IA,IB,OAB),no t(OAB,OC).	#include <stdio.h> int AND(int a, int b) { return a && b; } int OR(int a, int b) { return a b; } int NOT(int a) { return !a; } int main() { int a, b; printf("Input2binary (0 o 1):\n"); scanf("%d %d", &a, &b); printf("AND(%d, %d) = %d\n", a, b, AND(a, b)); printf("OR(%d, %d) = %d\n", a, b, OR(a, b)); printf("NOT(%d) = %d\n", a, NOT(a)); return 0; }	import java.util.Scanner; public class LogicGates { public static int AND(int a, int b) { return a & b; } public static int OR(int a, intb) { return a b; } public static int NOT(int a) { return a == 0 ? 1 : 0; } public static void main(String[] args) { Scanner scanner = new Scanner(System.in); int a, b; System.out.println("Input 2binary (0 o 1):"); a = scanner.nextInt(); b = scanner.nextInt(); System.out.println("AND(" + a + ", " + b + ") = " + AND(a, b)); System.out.println("OR(" + a + ", " + b + ") = " + OR(a, b)); System.out.println("NOT(" + a + ") = " + NOT(a)); scanner.close(); }	class AndGate: def __init__(self, input1, input2): self.input1 = input1 self.input2 = input2 def output(self): return self.input1 and self.input2 class OrGate: def __init__(self, input1, input2): self.input1 = input1 self.input2 = input2 def output(self): return self.input1 or self.input2 class NotGate: def __init__(self, input1): self.input1 = input1 def output(self): return not self.input1 class XorGate: def __init__(self, input1, i self.input1 = input1 self.input2 = input2 def output(self): return self.input1 ^ self class ComplexCircuit: def __init__(self, A, B, C) self.A = A self.B = B self.C = C self.not_gate = NotGate(sel self.and_gate =

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				<pre>AndGate(self.not_gate.output(), self.B) self.or_gate = OrGate(self.and_gate.output(), self.C) def output(self): return self.or_gate.output() def test_complex_circuit(): print("Complex Circuit:") # Input values A = True B = False C = True #Instance circuit circuit = ComplexCircuit (A, B, C) # Output result print(f"Inputs: A={A}, B={B}, C={C} -> Output: {circuit.output()}") test_complex_circuit()</pre>	
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PART 2:

	Reviewer’s comment	Author’s comment <i>(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)</i>
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

Reviewer Details:

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