To do: Make a submission

Opened: Thursday, 18 July 2024, 12:05 AM
Due: Thursday, 25 July 2024, 11:55 PM

Assignment Instructions:

This assignment will help you to explore different combinations, lock mechanisms, and user interfaces, encouraging creative problem-solving.

In this task, your objective is to create a digital circuit project that employs a programmable logic device (PLD). You should elucidate the essential components within your circuit and their respective roles. Incorporate at least one PLD into your project and elucidate how it enhances the circuit's performance.

Scenario:

You are a student enrolled in an introductory digital electronics course, and your instructor has assigned a small project to reinforce your understanding of programmable logic devices (PLDs) and their role in designing and implementing digital circuits in electronic systems.

Assignment:
1. Design and develop a simple digital circuit project that utilizes a programmable logic device (PLD).
2. Identify and explain the key components and their functions within your circuit.
3. In your project, incorporate at least one PLD and summarize how it enhances the functionality of your circuit.
4. Provide a brief explanation of why PLDs are valuable tools in digital circuit design.

Submission Instructions:

- Submit the solution in a word document.
- Make sure your submission is double-spaced, using Times New Roman, 12-point font, with 1" margins.
- Use sources to support your arguments. Add a reference list at the end of the submission. For assistance with APA formatting, view the [Learning Resource Center: Academic Writing](#).
- Your submission should be clearly written, concise, and well organized, and free of spelling and grammar errors. Read the grading rubric to understand how your work will be evaluated.

This assignment will be assessed by your instructor using the rubric below.

Add submission

Submission status

Attempt number	This is attempt 1.
Submission status	No submissions have been made yet
Grading status	Not graded
Time remaining	7 days 13 hours remaining

Grading criteria

Q1. Design of Digital Circuit Project	Demonstrates exceptional understanding by designing a highly efficient circuit that meets or exceeds project requirements. **25 points**	Designs an efficient circuit that meets project requirements effectively. **20 points**	Designs a circuit that meets project requirements but with some inefficiencies or minor issues. **12 points**	Designs a circuit that partially meets project requirements with notable inefficiencies. **7 points**	Designs a circuit which does not meet the project requirements and has a lot of errors. **0 points**
Q2. Component identification and explanation	Accurately identifies and comprehensively explains all essential components within the circuit, showcasing a deep understanding. **20 points**	Identifies and thoroughly explains most essential components within the circuit with clear understanding. **16 points**	Identifies and explains some essential components within the circuit but with some omissions or lack of clarity. **10 points**	Identifies components but provides minimal or unclear explanations. **6 points**	Does not identify and explain the components clearly. The answer given is incorrect. **0 points**
Q3. PLD Integration and Circuit Functionality.	Skilfully incorporates a PLD into the project, clearly explaining how it enhances circuit functionality in a highly insightful manner. **25 points**	Integrates a PLD effectively into the project, explaining its role in enhancing circuit functionality. **20 points**	Integrates a PLD into the project with some explanation of its role in circuit enhancement. **12 points**	Includes a PLD in the project but lacks a clear explanation of its role or impact. **7 points**	Does not include a PLD in the project. The explanation given is unclear. **0 points**

Q4. Explanation of PLD Value in Digital Circuit Design	Provides an insightful and concise explanation of why PLDs are valuable tools in digital circuit design, supported by relevant examples. *20 points*	Offers a clear explanation of the value of PLDs in digital circuit design with some supporting examples. *16 points*	Provides a basic explanation of the value of PLDs with limited supporting examples. *10 points*	Offers a vague or insufficient explanation of PLD value in digital circuit design. *6 points*	The explanation provided is incorrect with many errors. *0 points*
Organization and Clarity	Presents information in a well-organized and clear manner with impeccable grammar and writing style. *10 points*	Presents information in an organized and clear manner with minor grammar or writing style errors. *8 points*	Presents information with some organization but may lack clarity or have notable grammar and writing style issues *5 points*	Presents information in a disorganized or unclear manner with significant grammar and writing style problems. *1 points*	