Title: **Boolean Logic** Job: 3

Course: Intro to Automation Unit: Manual Motor Control CLO: 2

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Grade \_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Objectives**

1. Student shall identify EQUAL, AND, OR, NOT, NAND, NOR logic circuits.
2. Student shall recognize symbols and operators as they relate to boolean logic equations.
3. Student shall translate a Boolean logic formula into a logical wired circuit.
4. Student shall assess Boolean logic examples on a live circuit.

**Assessment**

Students shall demonstrate a comprehension of the objectives listed above by scoring a minimum of 75% on this Job. Grading shall be based on an answer key.

**Instructions**

Wire each example shown below. Energize the circuit and complete the associated truth table.



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| START | G |
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1. What type of logic is represented in this circuit? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Write the formula that represents this circuit? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



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| START1 | START2 | G |
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1. What type of logic is represented in this circuit? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Write the formula that represents this circuit? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Instructions**

Wire each example shown below. Energize the circuit and complete the associated truth table.



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| START1 | START2 | G |
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1. What type of logic is represented in this circuit? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Write the formula that represents this circuit? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



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| STOP | G |
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1. What type of logic is represented in this circuit? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Write the formula that represents this circuit? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Instructions**

Wire each example shown below. Energize the circuit and complete the associated truth table.



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| --- | --- | --- |
| STOP1 | STOP2 | G |
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1. What type of logic is represented in this circuit? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Write the formula that represents this circuit? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



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| STOP1 | STOP2 | G |
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1. What type of logic is represented in this circuit? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Write the formula that represents this circuit? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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