Lab 1 – Logic Levels

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The purpose of this lab is to:

Learn how to create logic levels for digital circuits using switches and resistors.

Select four 10kohm resistors.

Measure and record the resistance of each resistor.

Equipment needed:

1 – Digital Multimeter

4 – 10Kohm

1 – 4 position dip switch

Using Multisim simulate Figure 1 for each voltage level and record in Table 1. Then build and test and measure each voltage level and record in Table 1

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Simulated | | Test | |
|  | Open | Closed | Open | Closed |
| VA | 4.999V | 50nV | 5.03V | 0V |
| VB | 4.999V | 50nV | 5.03V | 0V |
| VC | 499.945uV | 5V | 0V | 5.03V |
| VD | 499.945uV | 5V | 0V | 5.03V |



Table 1 (Simulation vs Test)

Figure 1- Lab 1 Schematic

Observations: The Voltage readings were surprisingly constant across each reading.