Name and Student ID:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Lab Section:\_\_

Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**PRELAB:**

**Q1. The following symbols are normally used to display digits 0-F. Modify them when segment E, (lower left) is stuck at OFF.**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Z | Y | X | W | Display |  | Z | Y | X | W | Display |
| 0 | 0 | 0 | 0 |  |  | 1 | 0 | 0 | 0 |  |
| 0 | 0 | 0 | 1 |  |  | 1 | 0 | 0 | 1 |  |
| 0 | 0 | 1 | 0 |  |  | 1 | 0 | 1 | 0 |  |
| 0 | 0 | 1 | 1 |  |  | 1 | 0 | 1 | 1 |  |
| 0 | 1 | 0 | 0 |  |  | 1 | 1 | 0 | 0 |  |
| 0 | 1 | 0 | 1 |  |  | 1 | 1 | 0 | 1 |  |
| 0 | 1 | 1 | 0 |  |  | 1 | 1 | 1 | 0 |  |
| 0 | 1 | 1 | 1 |  |  | 1 | 1 | 1 | 1 |  |

**Q2. The following symbols are normally used to display digits 0-F. Modify them when segment E, (lower left) is stuck at ON.**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Z | Y | X | W | Display |  | Z | Y | X | W | Display |
| 0 | 0 | 0 | 0 |  |  | 1 | 0 | 0 | 0 |  |
| 0 | 0 | 0 | 1 |  |  | 1 | 0 | 0 | 1 |  |
| 0 | 0 | 1 | 0 |  |  | 1 | 0 | 1 | 0 |  |
| 0 | 0 | 1 | 1 |  |  | 1 | 0 | 1 | 1 |  |
| 0 | 1 | 0 | 0 |  |  | 1 | 1 | 0 | 0 |  |
| 0 | 1 | 0 | 1 |  |  | 1 | 1 | 0 | 1 |  |
| 0 | 1 | 1 | 0 |  |  | 1 | 1 | 1 | 0 |  |
| 0 | 1 | 1 | 1 |  |  | 1 | 1 | 1 | 1 |  |

**Q3. Fill the following table for your symbols for Q1.**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Z** | **Y** | **X** | **W** | **A** | **B** | **C** | **D** | **E** | **F** | **G** |
| 0 | 0 | 0 | 0 |  |  |  |  |  |  |  |
| 0 | 0 | 0 | 1 |  |  |  |  |  |  |  |
| 0 | 0 | 1 | 0 |  |  |  |  |  |  |  |
| 0 | 0 | 1 | 1 |  |  |  |  |  |  |  |
| 0 | 1 | 0 | 0 |  |  |  |  |  |  |  |
| 0 | 1 | 0 | 1 |  |  |  |  |  |  |  |
| 0 | 1 | 1 | 0 |  |  |  |  |  |  |  |
| 0 | 1 | 1 | 1 |  |  |  |  |  |  |  |
| 1 | 0 | 0 | 0 |  |  |  |  |  |  |  |
| 1 | 0 | 0 | 1 |  |  |  |  |  |  |  |
| 1 | 0 | 1 | 0 |  |  |  |  |  |  |  |
| 1 | 0 | 1 | 1 |  |  |  |  |  |  |  |
| 1 | 1 | 0 | 0 |  |  |  |  |  |  |  |
| 1 | 1 | 0 | 1 |  |  |  |  |  |  |  |
| 1 | 1 | 1 | 0 |  |  |  |  |  |  |  |
| 1 | 1 | 1 | 1 |  |  |  |  |  |  |  |

**Q4. Fill the following table for your symbols for Q2.**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Z** | **Y** | **X** | **W** | **A** | **B** | **C** | **D** | **E** | **F** | **G** |
| 0 | 0 | 0 | 0 |  |  |  |  |  |  |  |
| 0 | 0 | 0 | 1 |  |  |  |  |  |  |  |
| 0 | 0 | 1 | 0 |  |  |  |  |  |  |  |
| 0 | 0 | 1 | 1 |  |  |  |  |  |  |  |
| 0 | 1 | 0 | 0 |  |  |  |  |  |  |  |
| 0 | 1 | 0 | 1 |  |  |  |  |  |  |  |
| 0 | 1 | 1 | 0 |  |  |  |  |  |  |  |
| 0 | 1 | 1 | 1 |  |  |  |  |  |  |  |
| 1 | 0 | 0 | 0 |  |  |  |  |  |  |  |
| 1 | 0 | 0 | 1 |  |  |  |  |  |  |  |
| 1 | 0 | 1 | 0 |  |  |  |  |  |  |  |
| 1 | 0 | 1 | 1 |  |  |  |  |  |  |  |
| 1 | 1 | 0 | 0 |  |  |  |  |  |  |  |
| 1 | 1 | 0 | 1 |  |  |  |  |  |  |  |
| 1 | 1 | 1 | 0 |  |  |  |  |  |  |  |
| 1 | 1 | 1 | 1 |  |  |  |  |  |  |  |

Demonstration Results:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_