|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A** | **B** | **C** | **D** | **a** | **b** | **c** | **d** | **e** | **f** | **g** |
| **0** | **0** | **0** | **0** | **1** | **1** | **1** | **1** | **1** | **1** | **0** |
| **0** | **0** | **0** | **1** | **0** | **1** | **1** | **0** | **0** | **0** | **0** |
| **0** | **0** | **1** | **0** | **1** | **1** | **0** | **1** | **1** | **0** | **1** |
| **0** | **0** | **1** | **1** | **1** | **1** | **1** | **1** | **0** | **0** | **1** |
| **0** | **1** | **0** | **0** | **0** | **1** | **1** | **0** | **0** | **1** | **1** |
| **0** | **1** | **0** | **1** | **1** | **0** | **1** | **1** | **0** | **1** | **1** |
| **0** | **1** | **1** | **0** | **1** | **0** | **1** | **1** | **1** | **1** | **1** |
| **0** | **1** | **1** | **1** | **1** | **1** | **1** | **0** | **0** | **0** | **0** |
| **0** | **0** | **0** | **0** | **1** | **1** | **1** | **1** | **1** | **1** | **1** |
| **1** | **0** | **0** | **1** | **1** | **1** | **1** | **0** | **0** | **1** | **1** |

**Task # 1. Designed BCD to Seven Segment Decoder on Circuit Maker using IC 7446 and Logic gates both.**

Help. Draw truth table, Make Boolean expressions, simplify them using Kmap and draw simplified circuit.

**KMAP EXPRESSIONS:**

a

**B’D’+C+BD+A**

B

**B’+C’D’+CD**

C

**B+C’+D**

D

**A+B’D’+B’C+CD’+BC’D**

E

**B’D’+CD’**

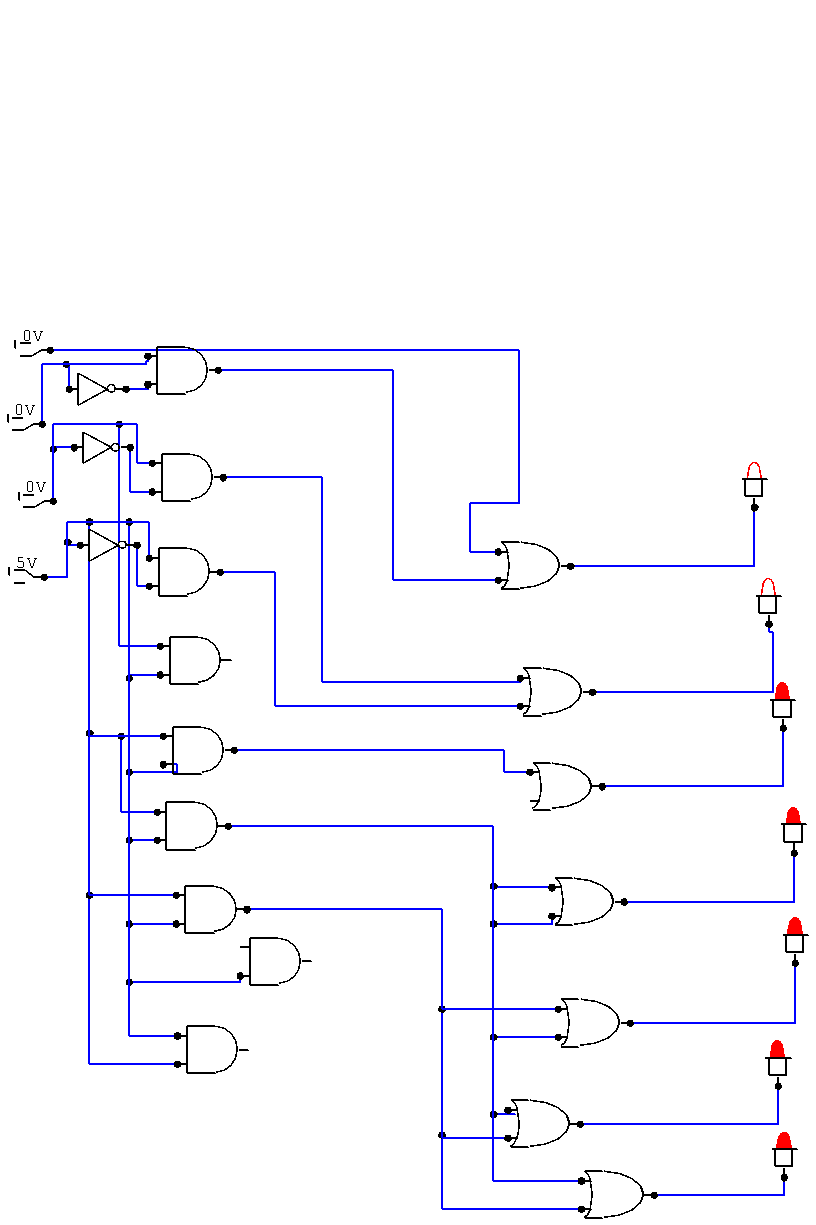
F

**A+BC’+BD’+C’D’**

G

**A+BC’+B’C+CD’**

**Circuit Diagram:**

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