MULTIPLIER CIRCUIT

COMBINATIONAL LOGIC CIRCUITS

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TOPIC OUTLINE

Multiplier Circuit

MULTIPLIER CIRCUIT

MULTIPLICATION

Decimal Multiplication

```
        8   Multiplicand
    ×
        3   Multiplier
    ─────
       24   Product
```

Binary Multiplication

```
      1000   Multiplicand
    ×
      0011   Multiplier
    ───────
      1000   Partial product 0
    +
      1000   Partial product 1
    ───────
     11000   Product
```
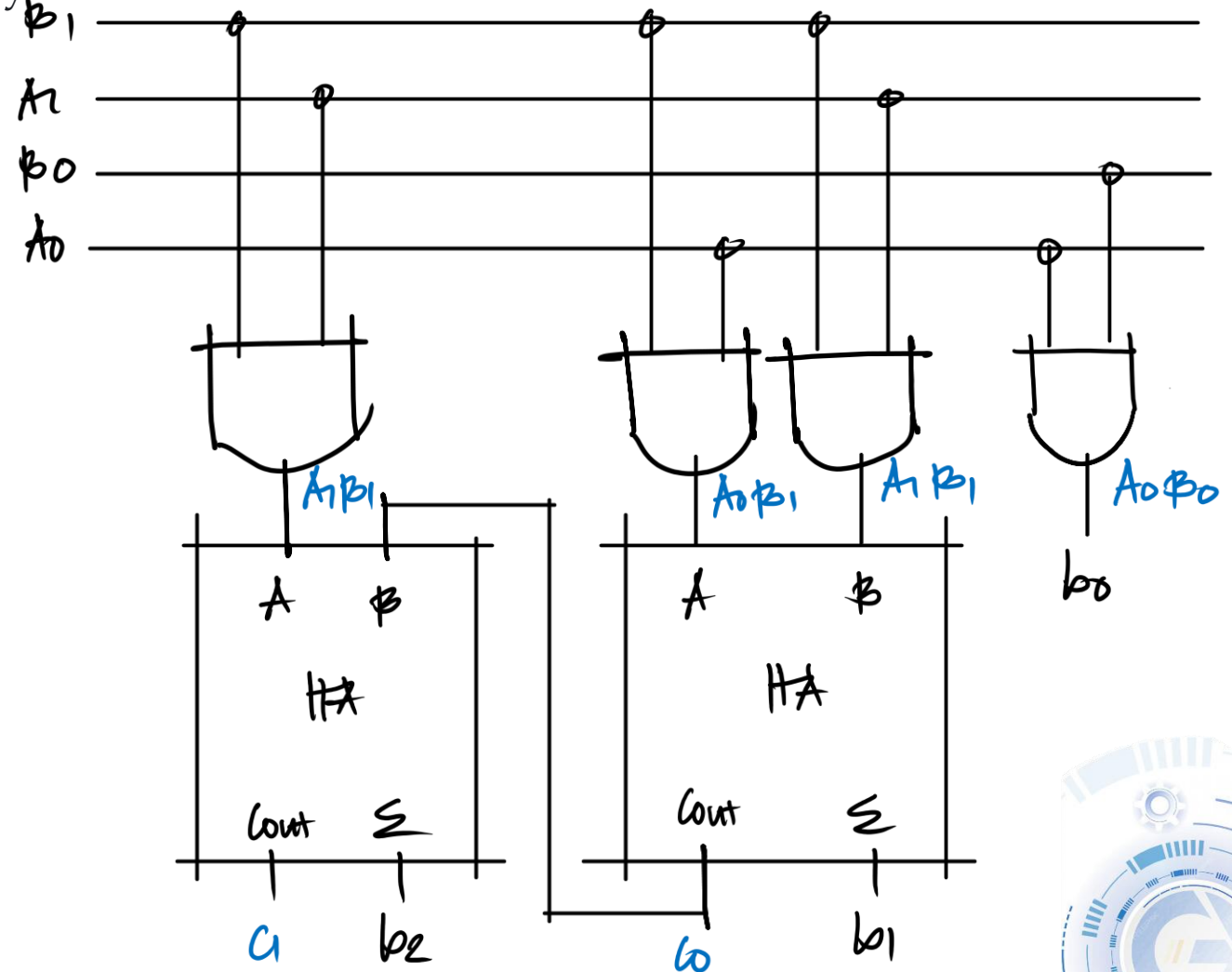
EXERCISE

Create a block-level representation of a 2-bit binary multiplier.
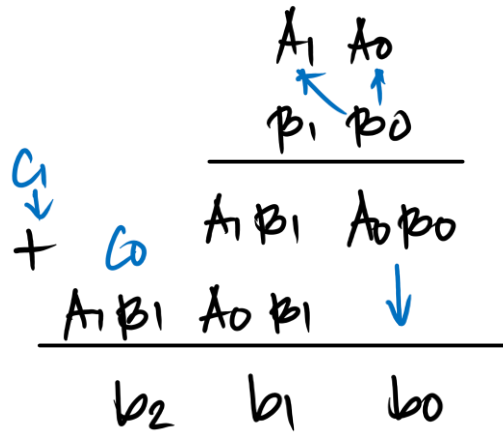
EXERCISE

Synthesize and implement a 2-bit parallel binary

multiplier.

note

The use of XOR or XNOR gates is not allowed.

Solution

LABORATORY