

8-bit Divider

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Overview

- 1 Project outline
- 2 Division algorithm pseudo code

Project Outline

- Design an 8-bit Divider.
- The input bits are given through two push buttons which represents 0 and 1.
- A division algorithm is implemented using a verilog code.
- Synthesize the module on the Icoboard and Interface it to analyze the outputs.

Division Algorithm

Basically the reverse of the multiply by shift and add.

- **Set** quotient to 0.
- Align leftmost digits in dividend and divisor.
- **Repeat**
 - **If** that portion of the dividend above the divisor is greater than or equal to the divisor
 - **Then** subtract the from that portion of the dividend and
 - Concatenate 1 to the right hand end of the quotient
 - **Else** concatenate 0 to the right hand end of the quotient
 - Shift the divisor one place right
- **Until** dividend is less than the divisor
- quotient is correct, dividend is remainder
- **STOP**

INPUT and OUTPUT

- Input is given through 2 pushbuttons, one for 0 and one for 1
- For the output, the idea is to interface with **arduino** using the ICObord pinout to show the quotient and remainder.

Thank You