8-bit Divider

G.Preetham Reddy, C.Aravind Reddy.

Indian Institute of Technology Hyderabad

EE3025 IDP

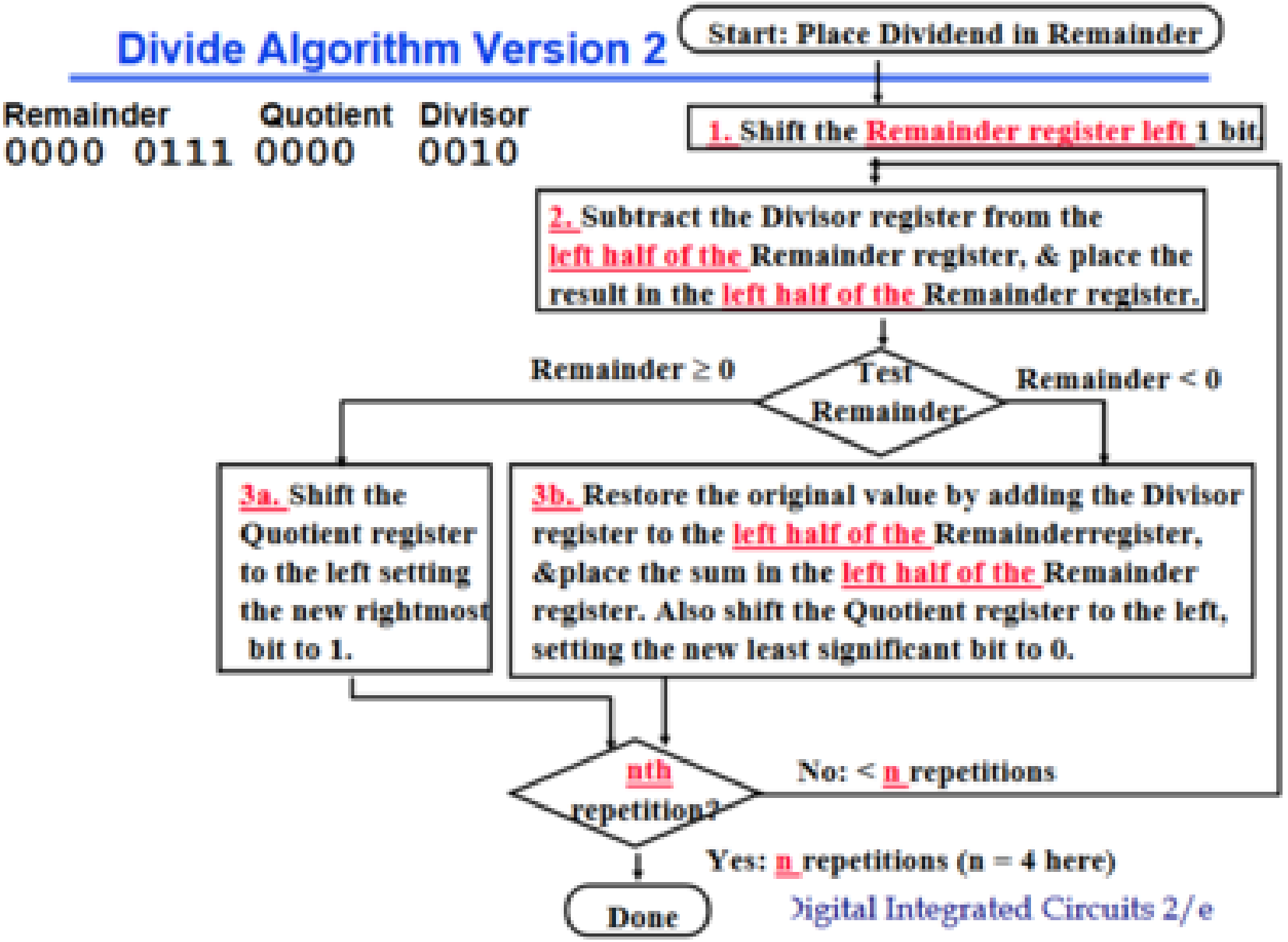
April 26, 2019

Overview

Project Outline

- Design an 5-bit Divider.
- The inputs(dividend and divisor) are given in the arduino serial monitor.
- A division algorithm is implemented using a verilog code.
- The outputs(quotient and remainder) are printed in serial monitor of the output arduino code.
- Synthesized the module on the Icoboard and interfaced it to analyze the outputs.

Division Algorithm



INPUT

- The inputs needed are dividend and divisor. They are given in the serial monitor of arduino using Serial.parseInt() function.
- An arduino code is written for which it converts the given two inputs into bits format and serially reads them.
- Each pin corresponds to each bit and all those pins are connected to the ICO-board where the division occurs.

OUTPUT

- The outputs generated from the verilog code are quotient and remainder and they are in binary bits format.
- As same in the input case, each bit of output corresponds to each pin which are connected from ICO-board to the another arduino.
- The output code converts the generated binary format numbers into decimal format and prints them in the serial monitor.

References

http://bwrcs.eecs.berkeley.edu/Classes/icdesign/ee141_s04/*Project*/*Divider*

http://icoboard.org/

https://github.com/PreethamOO7/FPGA-IDP-/tree/master

https://www.arduino.cc/en/Main/Software

Thank You