COL 215 - Assignment 2 Part 2

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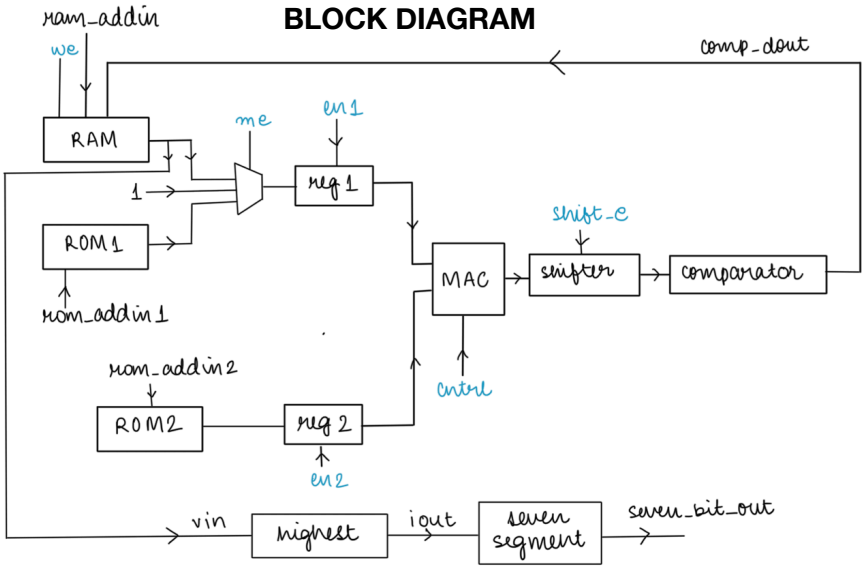
BLOCK DIAGRAM



Blue signals - Control Path
Black - Data Path
Blocks (rectangles) - Components

Additional Components :

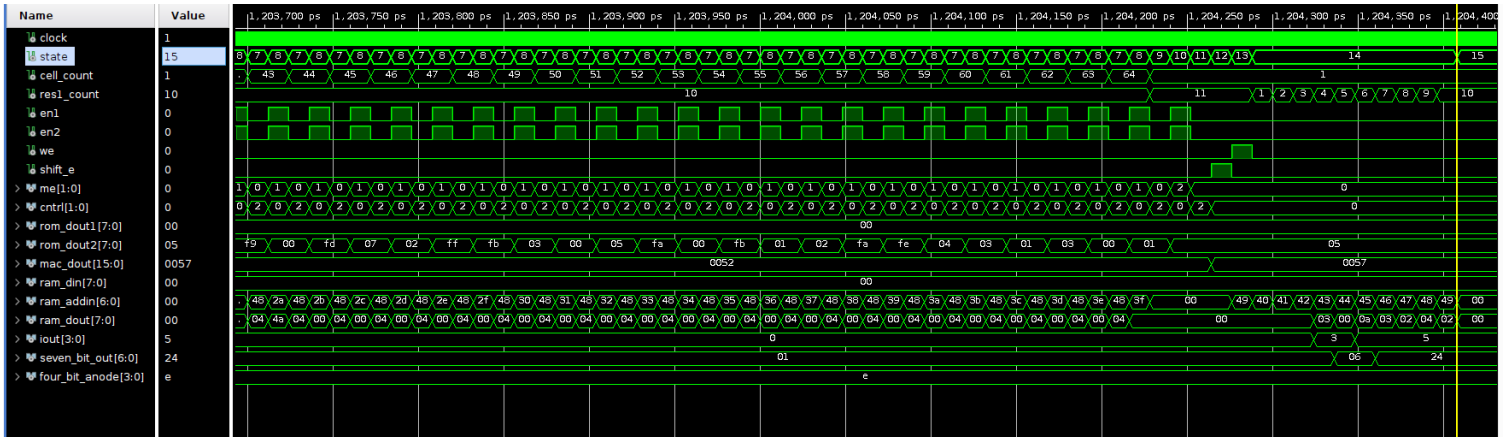
1. **HIGHEST** : This component takes one element of product_layer2 as input, compares it with the current maximum and outputs the current maximum.

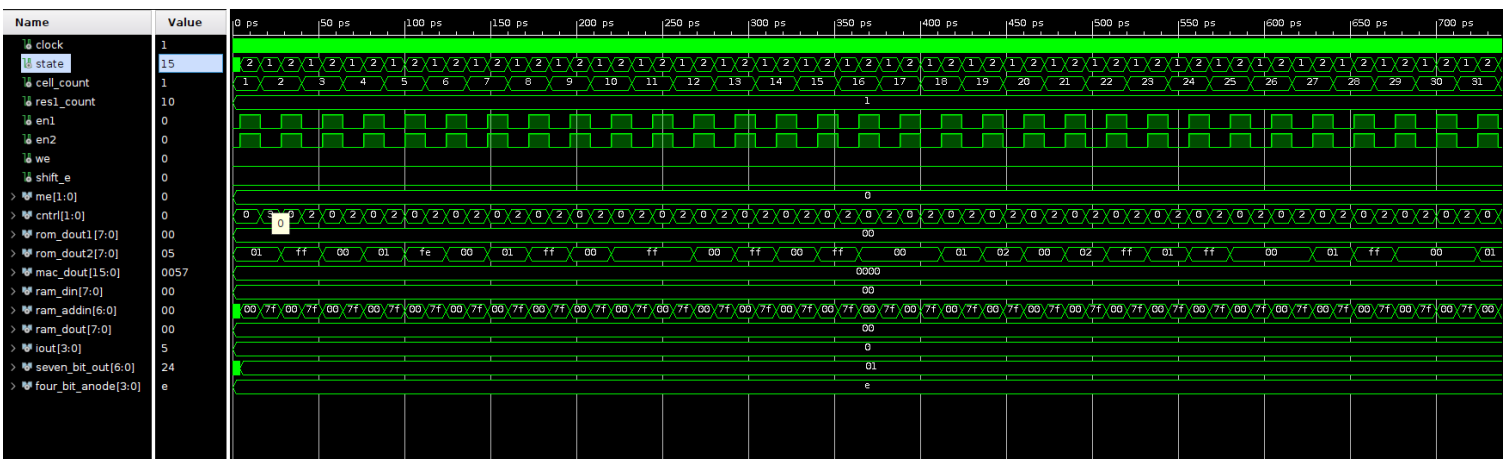
2. **SEVEN SEGMENT** : Takes as input a 1-digit (4 bit) number and outputs the cathode and anode configuration needed to display it on the Basys3 board

Layer 1 : (1 X 784) X (784 X 64) + (1 x 64) —> (1 X 64)
Input weight bias. product_layer1

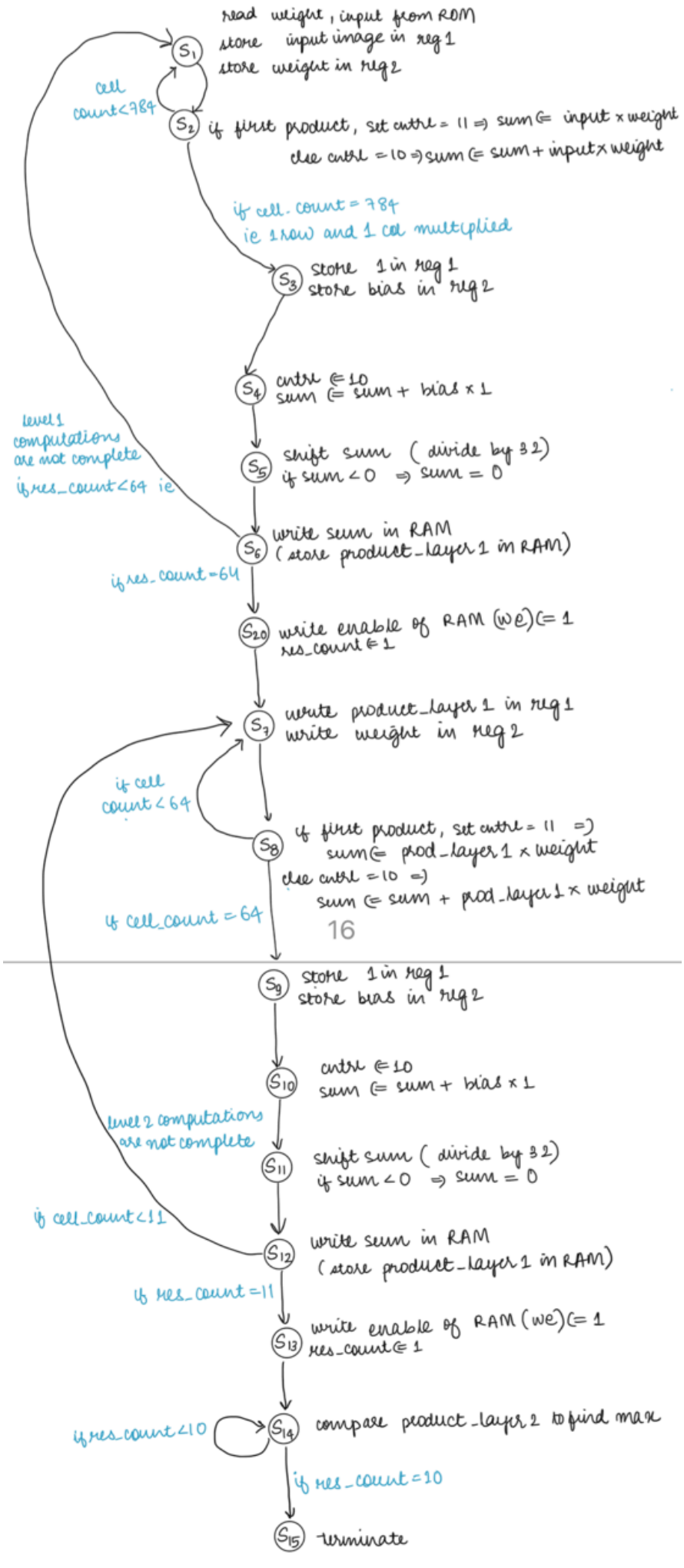
Layer 2 : (1 X 64) X (64 X 10) + (1 x 10) —>(1 X 10)
product_layer1 weight bias. product_layer2

SIMULATION





FINITE STATE MACHINE



S1 to S6 := Layer 1
S7 := Write Product_layer 1 in RAM
S7 to S12 := Layer 2
S13 := Write Product_layer 2 in RAM
S14 := Find output class by taking maximum of Product_layer 2