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**ECE 154A Lab 4**

1. a. Please indicate how many hours you spent on this lab.

Spent a total of 30 hours

    b. A completed version of Table 1.

c. An image of the simulation waveforms showing correct operation of the processor.

Our group spent a lot of time trying to get modelsim to output the waveforms, but we were unable to.

Everything compiled correctly without any errors but the waveforms were not what we anticipated from the code we wrote.

Graphical user interface, text, application, email

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A picture containing text

Description automatically generated

Graphical user interface

Description automatically generated

d. Marked up versions of the datapath schematic and decoder tables that add the ori and bne instructions.

Diagram, schematic

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e. Your Verilog code for your modified MIPS processor

controller.v

Text

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Text

Description automatically generated

Datapath.v Text

Description automatically generated

Mips.v

Text

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Graphical user interface, text, application

Description automatically generated

Text

Description automatically generated

Mipsmem.v

Text

Description automatically generated

Mipstop.v

Graphical user interface, text

Description automatically generated

Memfile2.dat

Graphical user interface, text

Description automatically generated

f. Completed version of Tables 2 and 3 for the modified MIPS processor.



g. The contents of your memfile2.dat containing your test2 machine language code.

Graphical user interface, text

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h. An image of the simulation waveforms showing correct operation of your modified processor on the new program. What address and data value are written by the sw instruction?

Our group spent a lot of time trying to get modelsim to output the waveforms, but we were unable to.

Everything compiled correctly without any errors but the waveforms were not what we anticipated from the code we wrote.

Graphical user interface, text, application, email

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Graphical user interface

Description automatically generated

**BOX Code**

**There is folder before changes which is the code before the changes implemented**

**There is folder after changes which is the code after the changes implemented**

<https://ucsb.box.com/s/2bfy4169vd3xvosai0kqle5qbghw9h84>

Graphical user interface, application, email, website

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