Gebze Technical University
Computer Engineering

CSE 331 – 2019 Fall

HOMEWORK 3 REPORT

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1 INTRODUCTION

1.1 Problem Definition

Design a single cycle processor with working some instructions.

1.2 System Requirements

Quartus II 64-Bit Version 13.1.0 Build 162 10/23/2013 SJ Web Edition

2 METHOD

2.1 Problem Solution Approach

My register is working well, but i used my local path to read from file. (Like c:/…/register.mem). I used the ALU from my previous homework. I used 4:1 mux with if cases (because i can't find another way with 32 bit, i have also 4:1 mux without if statement). My memory is also working well, but again it uses my local path (can need to be change). I don't have PC(program counter).

3 RESULT

3.1 Test Cases

I tested my program with some instructions:
lb, $16, 26($17)
sw, $16, 26($17)

3.2 Running Results

lb $16, 26($17)

```
# time =  0, a=00000000000110100000000000000000
```

The result value is returned value from memory.
sw, $16, 26($17)

```
# time =  0, a=xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
# time =  2, a=00000000000000000000000000010001
```

The first value is write data value (which is supposed to be unknown for first time)
The second value is write data value from after ALU operations.(which is will be written in memory.)