Text

Description automatically generated

SEMESTER 1, 2021/2022

CSCI 3301 CAAL Section 03

COMPUTER ARCHITECTURE AND ASSEMBLY LANGUAGE

**Lab 3**

**PREPARED BY:**

|  |  |
| --- | --- |
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1. Copy Table 1 and add another row for I-type instruction. Fill in the relevant values.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| I-Type | 0 | ? | ? | 1 | 0 | 0 | 0 | 1 | 0 |



1. Based on Program A, draw the instruction-time diagram.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **C1** | **C2** | **C3** | **C4** | **C5** | **C6** | **C7** | **C8** | **C9** | **C10** | **C11** | **C12** | **C13** | **C14** |
| li | IF | ID | EX | MEM | WB |  |  |  |  |  |  |  |  |  |
| li |  | IF | ID | EX | MEM | WB |  |  |  |  |  |  |  |  |
| li |  |  | IF | ID | EX | MEM | WB |  |  |  |  |  |  |  |
| li |  |  |  | IF | ID | EX | MEM | WB |  |  |  |  |  |  |
| slt |  |  |  |  | IF | ID | EX | MEM | WB |  |  |  |  |  |
| xor |  |  |  |  |  | IF | ID | EX | MEM | WB |  |  |  |  |
| bne |  |  |  |  |  |  | IF | ID | EX | MEM | WB |  |  |  |
| bubbled |  |  |  |  |  |  |  | IF | ID | EX | MEM | WB |  |  |
| bubbled |  |  |  |  |  |  |  |  | IF | ID | EX | MEM | WB |  |
| slt |  |  |  |  |  |  |  |  |  | IF | ID | EX | MEM | WB |

1. Copy Figure 2 (right-click ->Copy Image) to Jamboard/Paint or any image editing software.

bne $t2,$t4,loop

xori $t4,$t4,5

slt $t1,$t1,$t3

li $t4,0x15

li $t3,0

