MARS SIMULATOR FOR ASSEMBLY

40 MCQs
only 1 answer
book + hw
Wed.

1. Download "MARS Simulator" from this website link :

   http://courses.missouristate.edu/kenvollmar/mars/

   click : "Download MARS 4.5 Software" (Aug. 2014)

   after this is done, save the "MARS" software to a "icon" on the "Desktop" screen; then:

2. Download "java" :

   On the same "MARS" download page, I

   click : "Download Java" (select the "Win 64" version Java to download)

3. Double click "MARS-j4" icon to start "MARS" simulator tool;

MARS SIMULATOR FOR ASSEMBLY

4. Create a new Assembly file :

   File->New->mars2.asm

5. Start typing the assembly file "mars2.asm" :

```
li    $t0, 28
li    $t1, 0x10010000
sw    $t0, ($t1)
add   $s0, $t0, $t0
sw    $s0, 20($t1)
j     L1
L1:   add  $s1, $s0, $t1
```

6. Save the file and run Assembly :

   File->Save->mars2.asm

   Run->Assemble

   click "Green light"

-What are the values in the registers : $t0, $t1, $s0, $s1 ?

-What is the address for "L1" ? What is content stored inside the address 0x10010000 ? What is the address that the $s0 save to ?

MARS HOMEWORK

1. Run the following Assembly program, and find out :

   (1) What are the values in the registers : $t0, $t1, $s0, $s1 ?

   (2) What is the address for "L1" ? 0x00400020

   (3) What is content stored inside the address 0x10010060 ?

   (4) What are the memory addresses that the $s0 and $s1 save to ?

```
li    $t0,   your_student_id
li    $t1,   0x10010060
sw    $t0,   ($t1)
add   $s0,   $t0,  $zero
sw    $s0,   200($t1)
j     L1
L1:     add  $s1,  $s0, $t1
sw    $s1,   400($t1)
```

$t0 $t1

0x08f3e32d , 0x10010060 ,

0x08f3e32d , 0x18f4e38d

$s0 $s1

0x8f3e32d

0x10010128

0x100101f0

400($t1) = 0x00000190 + 0x10010060 = 0x100101f0

200($t1) = 0x000000c8 + 0x10010060 = 10010128