

## The first line is

0040000038 00025020

The first number is the memory location, the second is the instruction.

Now we will start parsing the instruction to decide what we should do?

## The instruction in binary is

0000\_0000\_0000\_0010\_0101\_0000\_0010\_0000

Look at the MIPS reference data sheet AKA the green sheet at the beginning of your text book.

## The R format is as follows

op	rs	rt	rd	sham	funct	Number of bits
6	5	5	5	5	6	
000000	00000	00010	01010	00000	100000	

The op is 0 and the funct is 100000 (0x20) that means the operation is add

rs = 0, that is register \$0

rt = 00010 2 That is register 2 which is \$vo

rd = 01010 that is ten, R10 is \$t2

So the instruction is add \$t2, \$v0, \$0

In this case, your simulator adds the contents of register 0 to the contents of register \$v0 (register 2) and store the result in \$t2 (R10).

Of course that means you have to have an array of 32 integers to represent the contents of the 32 register.